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ABSTRACT

This project attempts to provide a comprehensive list of recently written, high quality journal articles relating to the subject of Native Americans and special education, handicapping conditions, social and medical issues that may contribute to handicapping conditions, and alternative teaching methods that can be used to help Native Americans in special education settings. The journal articles listed were published from 1985 to 1992. All articles were selected based on: (1) relevance to the subject of Native American students and special education, and (2) the article's possible value as a resource to school personnel and teachers of exceptional Native American students. Articles describing research done in Canada are included. The bibliography is divided into seven sections, covering the following topics: (1) assessment (referral, identification, and special education placement); (2) health issues (medical problems, psychological problems, and substance abuse); (3) learning handicaps; (4) gifted and talented Native Americans and the need for alternative methods of referral and assessment; (5) program development and personnel training; (6) culture/language issues; and (7) cognitive style. Conclusions are drawn about the state of the literature in each of the seven bibliography areas, and suggestions for future research are offered. An appendix lists descriptors used in an Educational Resources Information Center (ERIC) search on this subject. (JDD)

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An Annotated Bibliography of Journal Articles on the Subject of Native American Students With Special Needs

1985-1992

Robert J. Hutchinson

Descriptors for project

1. _____
2. _____
3. _____

UNM examining committee

Dr. Barrera

Dr. Nielsen

Dr. Valles

date: October 27, 1992

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Table of Contents

Introduction	Page 1
Method	Page 2
Annotated Bibliography on Assessment	Page 4
Annotated Bibliography on Health Issues	Page 13
Annotated Bibliography on Learning Handicaps	Page 21
Annotated Bibliography on Gifted	Page 25
Annotated Bibliography on Program/Personnel Training	Page 28
Annotated Bibliography on Culture/Language Issues	Page 33
Annotated Bibliography on Cognitive Style	Page 42
Conclusions/Impressions	Page 51
Appendix: Descriptors Used for ERIC Search	Page 56

INTRODUCTION

There are many obstacles that one must overcome in order to effectively research a subject in the area of education. Among these obstacles is finding an adequate number of accurate sources of information pertaining to a chosen subject. Given the time constraints that most students must live with, there is nothing more disheartening than to build enthusiasm for gaining knowledge in a certain area of study, only to find a very limited amount of pertinent literature available from which to choose. As a result, the student will most likely (a) change his or her topic to fit the amount of literature that is easily accessible or (b) submit an inferior product based on the small amount of literature that he or she was able to find in the allotted time.

The purpose of this project is to provide a comprehensive list of recently written, high quality journal articles that relate the subject of Native Americans with pertinent subjects such as special education, handicapping conditions, social and medical issues that may contribute to handicapping conditions, and alternative teaching methods that can be used to help Native Americans in special education settings. From his participation in many classroom discussions at the University of New Mexico, the researcher has concluded that there exists significant interest in the aforementioned topics among educators. An annotated bibliography is therefore offered to encourage educators to more easily avail themselves of information that would be of assistance in special education classrooms that contain Native American students. It is believed that if educators of Native American children with special needs had convenient access to this annotated bibliography, the quality of the children's education would be positively affected.

Method

An extensive ERIC computer search of journal articles was conducted at the Zimmerman Library on the campus of the University of New Mexico in June, July and August of 1992. A complete list of descriptors used in this search is listed in the Appendix. Care was taken to search only journal articles published after December 31, 1984. The Education Index was manually searched and compared to the results obtained from the ERIC search. The reference sections of all articles were checked for journal articles that may not have been included in the ERIC and Education Index searches. In addition to the above searches, the following Journals were manually checked for relevant articles that may have been published subsequent to the latest ERIC file update: Journal of American Indian Education, Canadian Journal of Native Education, American Indian and Alaska Native Mental Health Research, Psychology in the Schools, American Journal of Public Health, American Indian Quarterly, School Psychology Review, Exceptional Children and Bilingual Review.

All articles to be included in the annotated bibliography were selected based on (a) relevance to the subject of Native American students and special education and (b) their possible value as a resource to school personnel and teachers of exceptional Native American students. Articles describing quality research done in Canada were included.

The bibliography is divided into seven sections as follows: Assessment, Health Issues, Learning Handicaps, Gifted, Program/Personnel Training, Culture/Language Issues and Cognitive Style. The *Assessment* section contains articles that pertain to referral, identification and special education placement decisions.

The *Health Issues* section offers information that can help educators to identify and understand medical, substance abuse and psychological problems frequently encountered by Native American students. The *Learning Handicaps* section contains articles and studies specifically related to exceptionalities as defined by federal law. The articles found in the *Gifted* section pertain to issues that involve gifted and talented Native Americans and the need for alternative methods of referral and assessment. The *Program/Personnel Training* section contains articles that describe innovative ideas as well as training programs for educators of Native American students with special needs. The articles in the *Culture/Language Issues* section deal with the effects that Native cultures and languages have on academic success in an Anglo-dominated education system. The *Cognitive Style* section can be a helpful resource for educators who seek alternative methods of presenting lessons. The articles in the latter two sections (Cognitive Style and Culture/Language) may pertain to regular education students as well as to special education students. The researcher has included these sections in the annotated bibliography because of the important role the topics play in the bilingual special education curriculum.

ANNOTATED BIBLIOGRAPHY

Assessment

Carney, L. J. and Chermak, G. D. (1991). Performance of American Indian children with Fetal Alcohol Syndrome on the Test of Language Development. Journal of Communication Disorders, 24,(2), 123-134.

Ten Native American children with diagnosed Fetal Alcohol Syndrome (FAS) and seventeen normally developing Native American children were administered the Test of Language Development (TOLD) in order to compare their expressive and receptive language abilities and find out more about the effects of FAS on the language abilities of afflicted children. The performance of the FAS group was significantly poorer than the control (normal) group on most subsets of the TOLD. However, the older FAS children presented mainly syntactic deficits, whereas the younger FAS children presented more global language deficits.

Chinn, P. C. and Hughes, S. (1987) Representation of Minority students in special education classes. Remedial and Special Education, 8,(4), 41-46.

A study of *Office of Civil Rights, Elementary and Secondary Schools Civil Rights* surveys was performed to determine whether any changes in the nature of the representation of minorities in special education classes was taking place. The data collected showed that Native Americans continued to be overrepresented in classes for trainable mentally retarded and learning disabled, and underrepresented in the classes for gifted and talented. These disproportionate representations, according to the authors, reflect a breakdown in the referral process, in the assessment process, or both.

Common, R. W. and Frost, L. G. (1988). The implications of the mismeasurement of Native students' intelligence through the use of standardized intelligence tests. Canadian Journal of Native Education, 15,(1), 18-30.

The article examines the history of the majority culture's attempts to measure the intelligence of Native Americans, starting with the use of phrenology, followed by measurements of skull capacity and the modern day futile attempts such as the WISC-R. The authors point out that all Anglo attempts have yielded the same inaccurate results. The inclusion of Sternberg's Contextualist Perspective on the assessment of Native Americans' intelligence is discussed as a possible breakthrough in the area of appropriately measuring the intelligence of Native Americans and other culturally different people.

Connely, J. B. (1985). Receptive and expressive vocabularies of young Indian children. Journal of American Indian Education, 24,(1), 33-37.

The Peabody Picture Vocabulary Test-Revised (PPVT-R) and the Wechsler Intelligence Scale for Children-Revised (WISC-R) vocabulary subtest were administered to Native American and non-Native American children to investigate the differences in scores on each test that was attained by the respective ethnic groups. Since the PPVT-R requires less verbal expression than the WISC-R vocabulary subtest, it was hypothesized that the Native American group would score higher on the PPVT-R than on the WISC-R. The results showed that the non-Native American group scored higher on the two measures, but the gap between the Native American and the non-Native American scores on the PPVT-R was significantly less than the gap between the scores on the WISC-R vocabulary subtest. The author concluded that the PPVT-R may present a format which is more compatible with Native American

patterns of interpersonal communication and visual strengths.

Deyhle, D. (1986). A micro-ethnographic comparison of Navajo and Anglo students' perceptions of testing. Curriculum Inquiry. 16,(4), 365-389.

Test results, teacher interviews, student interviews and extensive classroom observations were conducted in an all-Navajo BIA day school and at a predominantly Anglo school for the purpose of examining the structure and presentation of tests such as the California Test of Basic Skills (CTBS) and to compare its effects on the two groups of children. The results indicated that the individual assessments, as well as the public displaying of the results, were culturally incongruent and against the experience and expectations of the Navajo children, whereas the Anglo students accepted and understood the importance of the testing procedure and the public display of the results. The Navajo culture does not value individual accomplishment in the same way as does the Anglo culture. The author urges any person who interprets the results of such tests to bear in mind the cultural discontinuities between the home and school environments of Native American children.

Fifield, M. B. and Fifield, M. G. (1985). The effectiveness of psychoeducational testing reports as perceived by teachers in an intertribal secondary boarding school. Journal of American Indian Education. 24,(2), 16-24.

A combination of questionnaires and interviews were administered to teachers to determine how well certain psychoeducational testing reports communicate test results and programming recommendations to teachers in a Bureau of Indian Affairs secondary boarding school, and to offer suggestions that will improve communication between these reports and the school personnel who use them. The majority of teachers viewed the testing reports favorably and found them to be a

helpful tool in understanding the needs of the students who were being tested. The authors recommended that teachers receive training in understanding what information can be derived from such reports, and that the diagnosticians be careful not to use jargon that can impede communication of vital information.

Fisher, G. L. and Harrison, T. C. (1992). Assessment of alcohol and other drug abuse with referred adolescents. Psychology in the Schools, 29,(2), 172-178.

The authors believe that many Native American adolescent substance abusers who are referred for special education services may be misidentified because the symptoms for handicapping conditions are often similar to the symptoms of drug and alcohol abuse. Such factors as antisocial behavior, hyperactivity, academic failure, rebelliousness, lack of social bonding, cognitive impairment, alienation and behavioral changes are symptomatic of handicapping conditions as well as substance abuse. Procedures that can assist in assessing the likelihood that substance abuse contributes to academic and behavioral problems are discussed.

Larrick, W. R. (1991). A descriptive approach to language assessment. Journal of Navajo Education, 8,(3), 20-22.

The author, a speech/language pathologist, argues that the current language assessment process for special education placement is biased against Navajo children. Instead of the current approach, the author recommends the Descriptive Approach to assessing language of culturally and linguistically different children. The Descriptive Approach is made up of components that include the following: a naturalistic setting for the assessment rather than an artificial setting to meet the requirements of standardization, viewing the child

as a communicator rather than as a language user, two levels of analysis (descriptive and explanatory) and the use of criterion-referencing that focuses on general communicative behaviors.

MacAvoy, J. and Sidles, C. (1991). The effects of language preference and multitrial presentation upon the free recall of Navajo children. Journal of American Indian Education, 30,(3), 33-43.

The Rey Auditory Verbal Learning Test, a neuropsychological memory measure, was administered to eighty primarily Navajo-speaking children ranging in age from eight to ten years. One group was given the test in Navajo and the other group was given the test in English. The authors stated two purposes: to compare test results in the two languages, and to examine results of using a multitrial, free recall testing format to gain an assessment of auditory memory functions. The results showed that the children's recall in their native language was significantly better in the first two trials, with no significant difference in the final three trials. The suggestions were made that: (1) a more accurate measure of recall is attainable when the assessment is performed in the child's native language, and (2) more accurate skill estimates are attainable from memory tests in either language when a multitrial presentation format is used.

Manuel, L. L. (1991). Observations of a bilingual Navajo diagnostician. Journal of Navajo Education, 8,(3), 12-14.

The author, a Navajo psych-educational evaluator of children referred for special education services, retells one of her experiences that convinced her to leave the teaching profession in favor of her current chosen field. "Joe" was referred for his problem behaviors and poor academic record. The author knew that Joe's problems with school were culturally based but the professional

diagnostician, who was insensitive to Navajo students' needs, convinced the evaluation team otherwise. The result was an inappropriate placement in a C-level class. Several faulty assumptions about Navajo students are also listed and discussed.

McCullough, C. S., Walker, J. L. and Diessner, R. (1985). The use of Wechsler Scales in the assessment of Native Americans of the Columbia River Basin. Psychology in the Schools, 22,(1), 23-28.

The Wechsler Adult Intelligence Scale (WAIS) and the Wechsler Intelligence Scale for Children-Revised (WISC-R) were used in a study of Native American junior and senior high school students from the Columbia River Basin. The study was undertaken in part to contribute towards accepting or rejecting certain generalizations regarding the intellectual behavior of Native Americans. The Verbal Scale scores were significantly below the normative mean and the Performance Scale scores were at or above the normative mean. These results were consistent across many studies previously performed with other Native American Tribes. Because these measures may not be accurately assessing the subjects' verbal abilities, the authors advise caution in the use of the WISC-R and the WAIS with Native Americans.

Mishara, S. P., Lord, J. and Sabers, D. L. (1989). Cognitive processes underlying WISC-R performance of gifted and learning disabled Navajos. Psychology in the Schools, 26,(1), 31-36.

This study attempted to relate the Luria-Das Model of successive and simultaneous processes of coding information to the processing styles of learning disabled and gifted Navajo elementary school-age children. Using subtests from the WISC-R, it was hypothesized that the two groups would attack the same tasks by using different processing modes. The results indicated that the gifted group seemed

to prefer the successive processing mode on certain subtests, whereas the learning disabled group preferred the simultaneous processing mode for attacking the same tasks. The authors conclude that the two groups may require differential remedial and intervention procedures depending on their preferred modes of processing information.

Myles, D. W. and Ratzlaff, H. C. (1988). Teachers' bias towards visible ethnic minority groups in special education referrals. B. C. Journal of Special Education, 12,(1), 19-27.

Completed questionnaires were returned from 347 public elementary school teachers in Vancouver and used to investigate the possible presence of bias toward visible ethnic minority groups in special education. The questionnaire described a child who was experiencing academic and behavioral problems. The only difference between the questionnaires was that child was randomly described as being either Caucasian, Native Canadian, Oriental or East Indian. The analysis of the responses provided evidence of negative bias against the Native Canadian. The children described as Oriental and Caucasian experienced a positive bias. The authors suggest that this study provides evidence that visible ethnic minority groups, especially Native Canadians, are discriminated against in most educational settings.

Persi, J. and Brunatti, G. (1987). Cognitive measures and cultural bias: a comparison of the performances of Native and non-Native low achievers. Canadian Journal of Native Education, 14,(1), 15-18.

This study was conducted to evaluate whether low achieving Ojibway children who had been referred for psychological assessment because of scholastic difficulty would perform better on the Category Test (Reitan, 1956) than low achieving non-Native children. The

Category Test assesses matching an underlying principle to different visual patterns and is hypothesized to be a less culturally biased measure of Native Americans' cognitive skills. The results support the hypothesis in that the Ojibway children performed as well as non-Native children on the tasks found in the Category Test. However, the traditional IQ tests are more appropriate as predictors of academic difficulty in non-Native children.

Plank, G. A. (1991). Features of Navajo children's Draw-A-Person samples and possible self-concept interpretations. Journal of Navajo Education, 8,(3), 15-19.

Over 400 Draw-A-Person samples from Navajo children were analyzed in an effort to study their development of self-esteem. The results (abnormally small pictures) indicate that Navajo boys attending elementary school may be experiencing a problem with self-concept that begins before kindergarten. Navajo girls created larger drawings than the boys in every grade. The author asks whether the apparent low self-concept of Navajo boys could be a factor in the prevalence of problem drinking among Navajo males versus Navajo females.

Stone, B. J. and Gridley, B. E. (1991). The bias of a kindergarten screening battery: predicting achievement for White and Native American elementary students. School Psychology Review. 20,(1), 132-139.

A kindergarten screening battery (KSB), composed of results from the Peabody Picture Vocabulary Test-Revised (PPVT-R), the Kindergarten Language Screening Test (KLST), the Beery Developmental Test of Visual-Motor Integration (VMI), and the McCarthy Draw-A-Child Test (DAC) was administered to 591 White and 183 Native American elementary school children, and then compared to the subjects' Stanford Achievement Test total battery scores to see how well the KSB predicted achievement for the two ethnic groups. As expected, the

White group scored higher on the language-based tests and the Native American group scored higher on the visual-motor tests. Based on the results of the KSB, achievement scores of the Native American group were overestimated, whereas the White group's scores were underestimated.

Health Issues

Asetoyer, C. (1987). Fetal alcohol syndrome: an international concern. Winds of Change, 2,(4), 29-30.

A description of the Native American Community Board's program entitled "Women and Children in Alcohol" is offered in this article. The NACB provides statistics on the extent of fetal alcohol syndrome (FAS) and fetal alcohol effects (FAE) in the Native American population, and their effect on the community. The devastating impact on the already overburdened special education system is discussed. Of particular interest is the impact that the customary late diagnosis of FAE has on both the student and the school.

Beauvais, F., Oetting, E. R. and Edwards, R. W. (1985). Trends in the use of inhalants among American Indian adolescents. White Cloud Journal, 3,(4), 3-11.

More than 10,000 rural Native American adolescents from over 30 different tribes who were attending school were surveyed to ascertain the prevalence of inhalant use for mood-altering purposes. The results indicate that around 40% of Native American youth have tried inhalants by the time they reach 18 years of age. The authors concluded that Native American adolescent inhalant use far exceeds that of non-Native American inhalant use in the categories of intensity, recency and lifetime prevalence.

Beauvais, F., Oetting, E. R., Wolf, W. and Edwards, R. W. (1989). American Indian youth and drugs, 1976-87: a continuing problem. American Journal of Public Health, 79,(5), 634-636.

Anonymous questionnaires were used to update data from previous articles on trends in drug use of Native American youth who live on reservations. After enjoying a decline in over-all drug use in previous years, the 1988 data suggests a rise in the use of most

substances. Alcohol use among Native American youth also appears to be increasing slightly.

Carpenter, R. A., Lyons, C. A. and Miller, W. R. (1985). Peer-managed self control program for prevention of alcohol abuse in American Indian high school students: a pilot evaluation study. The International Journal of the Addictions, 20,(2), 299-310.

30 adolescent Native American high school students who were perceived as having drinking problems participated in a peer-managed self-control program to teach responsible drinking. This study differed from most studies involving alcohol abuse among Native American adolescents in that the primary goal was to teach "controlled drinking" and not alcohol prevention, and therefore was a test of the *social learning etiology* of alcohol abuse rather than the traditional *disease model* of alcoholism. The majority of subjects in the study showed marked improvement in drinking habits in both the short term and after one year.

Fingerhut, L. A. and Makuc, D. M. (1992). Mortality among minority populations in the United States. American Journal of Public Health, 82,(8), 1168-1170.

This article discusses the death rates, ages and causes of death among Americans of Hispanic, Asian, Native American, Black and White origins. Native Americans have the second highest death rate between the ages of one and fourteen and the highest death rate between the ages of fifteen and twenty-four. The main causes of death of Native American youth are unintentional injuries and suicide. Many of the unintentional injuries are from alcohol-related traffic accidents. It is the authors' hope that showing the disparities in mortality as well as the causes of death will lead to the development of specific interventions to reduce the disparities.

Grossman, D. C, Milligan, B. C. and Deyo, R. A. (1991). Risk factors for suicide attempts among Navajo adolescents. American Journal of Public Health, 81,(7), 870-874.

The results of self-reported suicide attempts of Navajo adolescents were analyzed in an attempt to identify risk factors. The highest risk factors were found to be extreme alienation from family and community, history of mental problems, knowing someone who has attempted suicide, frequent use of hard liquor, physical and sexual abuse, gender (female) and a poor self-perception of health status.

Hall, R. L., Wilder, D., Bodenroeder, P. and Hess, M. (1990). Assessment of AIDS knowledge, attitudes, behaviors, and risk level of Northwestern American Indians. American Journal of Public Health, 80,(7), 875-877.

A questionnaire, made to assess knowledge, attitudes, behaviors and risk of infection from the HIV virus, was completed by 710 Native Americans from ages 12 to 78 years. The results indicate that twice as many members as in the general population are in the high risk group for contracting the virus. However, the group who completed the survey demonstrated a knowledge level similar to that of the general population.

Neligh, G. (1990). Mental health programs for American Indians: their logic, structure and function. American Indian and Alaska Native Mental Health Research, 3,(3), 11-259.

The author's purpose is to provide information about mental health problems and programs to professionals who work with Native Americans. Of particular interest to educators are the sections entitled *Disorders Specific to Childhood* and *Problems of Adolescence*. Detailed descriptions of mental health, learning and behavioral problems are analyzed from a Native American point of view.

Oetting, E. R., Beauvais, F. and Edwards, R. (1988). Alcohol and Indian Youth: Social and psychological correlates and prevention. The Journal of Drug Issues, 18,(1), 87-111.

The authors discuss the psychosocial factors that can have a positive affect on a young Native Americans' decision not to drink. The results of a questionnaire completed by over 1700 Native Americans under the age of 17 show some surprising results as well as some predictable results. The surprising results include the following: there is no difference in family economic status for alcohol-involved and non-involved Native youth, there are no significant differences in self-confidence or social acceptance for alcohol-involved and non-involved youth, and alcohol abusing youth feel less alienated than their non-drinking peers. The predictable results include the following: young Native American alcohol users drink to lessen the pain of negative emotional states, adolescent drug use is usually related to disrupted family structure, and young Native American alcohol users have higher levels of such deviant behaviors as lying and cheating. Special attention is paid to *peer cluster theory* and the need to break up deviant peer clusters who isolate themselves from influence by either adults or youth who espouse traditional societal values.

Schafer, J. R. and McIlwaine, B. D. (1992). Investigating child sexual abuse in the American Indian community. American Indian Quarterly, 16,(2), 157-167.

The authors, special agents for the Federal Bureau of Investigation in Flagstaff, AZ, are experienced in the field of investigating crimes on several reservations throughout the United States. This article was written to share some of the problems that

people who are not familiar with tribal cultures have when they suspect, report and investigate child sexual abuse. Although all Native American cultures have strong sanctions against sexual abuse of children, one must remember that all tribes are culturally distinct and the handling of such a problem by non-tribal members should be done with extreme caution. The reporting and investigating procedures that are appropriate for one culture may be inappropriate for another culture.

Schinke, S. P., Bebel, M. Y., Orlandi, M. A. and Botvin, G. J. (1988). Prevention strategies for vulnerable pupils. Urban Education, 22, (4),510-519.

The second part of this article dealt with drug abuse preventive intervention based on a bicultural competence model. Leader modeling and student practice methods were used to teach Native American students communication, coping and discrimination skills. The results indicated that the group who received the modeling and practice interventions were more highly skilled in turning down drug and alcohol offers from their peers than the control group who received no intervention.

Schinke, S. P. et al., (1985). Strategies for preventing substance abuse with American Indian youth. White Cloud Journal, 1985, 3,(4), 12-18.

This paper emphasizes culturally sensitive, scientific strategies for preventing substance abuse that are based on strengths that have served Native American people for thousands of years. Deciding what strategies to use starts with brainstorming sessions that include the ideas of local leaders. Native traditions, ceremonies and values are a central part of the design of the programs. The implementation of the program includes group homework assignments, field trips,

audio-visual aids, guest speakers and experiential exercises.

Schinke, S. P. et al., (1988). Preventing substance abuse among American Indian adolescents: a bicultural competence skills approach. Journal of Counseling Psychology, 35,(1), 87-90.

The bicultural competence skills approach, consisting of three subgoals, (1) communication skills, (2) coping skills and (3) discrimination skills, was taught to Native American adolescents for the purpose of helping to prevent substance abuse. The group who received the skills-based intervention showed greater posttest and follow-up improvements on measures of knowledge, attitudes and interactive abilities than the control group who did not receive the intervention.

Schinke, S. P. et al., (1985). Preventing substance abuse with American Indian youth. Social Casework, 66,(4), 213-217.

The article begins with several startling statistics that relate Native American substance abuse with a high incidence of social maladaptation, poor health and death. The authors then discuss many of the accepted explanations for the high incidence of substance abuse among Native Americans, point out the merits of several prevention methods and conclude by declaring that substance abuse prevention programs are cheaper and more effective than substance abuse treatment programs.

Takie, Y., Lynch, P. and Charleston, G. M. (1988). To drink or not to drink: the Indian adolescents' choice between friends and family. Journal of American Indian Education, 27,(2), 1-9.

Interviews were conducted with 275 Native American children, adolescents and adults on the topic of social and family pressures that influence the adolescent's decision whether or not to drink. The

influences that promote drinking include peer pressure, lack of affectionate parent-child ties, lack of parent praise, parent modeling and older sibling modeling.

Thurman, P. J., Martin, D. and Martin, M. (1985). An assessment of attempted suicides among adolescent Cherokee Indians. Journal of Multicultural Counseling and Development, 13,(4), 176-182.

A questionnaire was developed and given to nurses and counselors at a BIA hospital in Tahlequah, Oklahoma, the capital of the Cherokee Nation. The questionnaire was designed to examine both the rate and reasons for suicidal attempts among adolescent Cherokee Indians. The rate was not accurately reported because many suicide attempts are not documented. The reasons given for suicide attempts are generally the same as those given by the non-Native population. It was mentioned, however, that the suicide rate among Native American adolescents is higher than the suicide rate of the general population, and that increasing the Native American's adaptability to the non-Native environment would be a determining factor in lowering the incidence of suicide for Native American adolescents.

Wescott, S. M. (1990). Time to address a preventable tragedy. Winds of Change, 5,(3), 30-34.

This article discusses the topic of pregnant women who drink, the cultural pressures felt by them to drink in order to be a part of their society, the magnified effects that most European diseases have had on Native Americans throughout history and the economic impact of a single FAS baby on the government budget. The article also discusses strategies for prevention of FAS, including the possibility of forced treatment for pregnant women who drink.

Zitzow, D. (1990). Ojibway adolescent time spent with parents/elders as related to delinquency and court adjudication experiences. American Indian and Alaska Native Mental Health Research, 4,(1), 53-63.

This study examined the issue of adolescent quality and quantity of time spent with parents or elders, and its relationship to skipping school, running away and violating the law. A survey was used along with public court records to conclude that adolescent Ojibways who spent less time with their parents and elder family members tended to be more involved in court adjudication and delinquency behaviors than adolescents who spend considerable time with parents and elders. The author offered six skill developing suggestions for professionals who work with troubled Native American youth, and a list of five suggestions for reservation leaders whose goal is to minimize adolescent problem behaviors.

Learning Handicaps

Beare, P. L. (1986). Programming for behaviorally disordered Native Americans. Journal of American Indian Education, 25,(2), 24-31.

Fourteen Native American high school students with academic and behavior problems were selected to participate in a treatment program designed to improve their academic performance, attendance and tardiness. The treatment program, known as Goal Attainment Scaling (GAS), stresses the setting of realistic expectations, monitoring of progress and recognition for student improvement. Thirteen of the fourteen students showed a significant decrease in the number of failing grades and eleven of the fourteen showed decreases in the number of tardies. The group attendance record improved slightly.

Cummins, J. (1991). Preventing pedagogically-induced learning difficulties among Indigenous students. Journal of Navajo Education, 8,(3), 3-9.

The author explains the ways that Native American children's academic potential can be undermined by the school experiences that have the affect of robbing them of their identities. It is stressed that one must often examine the interaction between school and the child when looking for the reason for learning problems, rather than searching within the child for the cause. Abusive boarding school experiences, lack of promotion of native language literacy, poverty and a faulty attribution process are specifically cited as being major causal factors for academic failure. Cummins' Framework for Intervention for the Empowerment of Minority Students is offered as an aid in solving this problem.

Dodd, J. M. and Nelson, J. R. (1989). Learning disabled adults: implications for tribal colleges. Journal of American Indian Education, 28,(3), 31-38.

Learning disabled Native American high school graduates who aspire to attend institutions of higher education have a twofold problem: (1) overcoming their disability and (2) adjustment to the different cultural environment of the predominantly White traditional higher education settings. Tribal colleges such as the Navajo Community College provide the opportunity for LD students to begin their higher education program without having to adjust to an unfamiliar cultural environment. The article also suggests twelve accommodations that teachers should consider for learning disabled students. These accommodations are also suitable for LD students of all ages.

Harris, G. A. (1985). Considerations in assessing English language performance of Native American children. Topics in Language Disorders, 5,(4), 42-52.

This article explains, in detail, the reasons for the low verbal IQ test scores of Native American children on measures such as the WISC-R, and the problems that can result from the improper interpretations of the results. Some of the reasons for the typical performance characteristics include test bias, culturally determined child-rearing practices, bilingualism and the use of non-standard English dialects, possible hearing loss due to otitis media, Native American cultural emphasis on performance rather than verbal skills, unfamiliar assessment environment and inadequate test interpretation with respect to local customs. The article concludes with a number of suggestions that professionals can take into account when assessing Native Americans and interpreting results of the assessments.

Horan, K. T. (1986). Effects of head injury on the educational and vocational potential of American Indians. Rural Special Education Quarterly, 8 (1),19-22.

This article describes the nature of the increased risk of head injury that Native Americans who live on the reservation face. These hidden dangers include riding in the back of a pick-up trucks, livestock accidents, rodeo accidents, alcohol-related traffic accidents and the distance one must drive to obtain emergency medical care. A description of learning handicaps commonly experienced by head injury patients is offered, and alternative teaching methods are also discussed.

Lankford, R. and Riley, J. D. (1986). Native American reading disability. Journal of American Indian Education, 25,(3), 1-11.

The author discusses the Language Experience Approach, a strategy for teaching reading to Native American children that will satisfy both the need to learn to read and the need for culture to be an integral part of the learning process. Currently there exists a gap between the beliefs of the cultural specialists and the education specialists on teaching strategies. The Language Experience Approach could bridge that gap.

Scaldwell, W. A. (1989). Effect of otitis media upon reading scores of Indian children in Ontario. Journal of American Indian Education, 28,(2), 32-39.

Otitis media has long been expected as a cause of speech and language problems in children. This study attempted to find a link between otitis media and reading skills of Native American children in Ontario. The results indicated that the children who were presently suffering with otitis media present lower on the Gates-MacGinite Reading Tests than children with normal hearing, and the children with

past signs of infection scored lowest of the three groups. The results also suggest that the younger the age of onset, the lower the reading score of the inflicted child.

Scaldwell, W. A. and Frame, J. E. (1985). Prevalence of otitis media in Cree and Ojibway school-children in six Ontario communities. Journal of American Indian Education, 25,(1), 1-5.

Otitis media (middle ear infection) is prevalent in Native American children and presents a major threat to normal language development. Over 700 Native American children in Ontario were screened by a registered audiologist for presence of active otitis media or for evidence of past infection, and 40.7% showed signs of having had the infection. The high rate of infection may offer an explanation as to why many Native American children do not respond well to the phonetic method of teaching reading.

Thielke, H. M. and Shriberg, L. D. (1990). Effects of recurrent otitis media on language, speech, and educational achievement in Menominee Indian Children. Journal of American Indian Education, 29,(2), 25-35.

Several measures were administered to Menominee children to assess the effects of otitis media on language, speech and educational success. The results showed significantly higher scores on most measures for subjects who had no signs of the infection at any time in their lives, and trends toward higher scores on the remaining measures. A follow-up study of grade placements and support services indicated that the subjects who had showed signs of otitis media experienced more grade retention and much higher use of support services.

Gifted

Christensen, R. A. (1991). A personal perspective on tribal Alaska Native gifted and talented education. Journal of American Indian Education, 31,(1), 10-14.

The author argued that the term "giftedness" for purposes of educational placement has always been defined within the world view of the White person. For this reason the Native American is usually underrepresented in programs for the gifted and talented. When speaking of Native Americans, the definition of gifted and talented must take a cultural stance and agree with tribal definitions. Because of such cultural dissimilarities as a different sense of time, space and world view, the traditional White definition does not apply to the gifted Native American student.

Hartley, E. A. (1991). Through Navajo eyes: examining differences in giftedness. Journal of American Indian Education, 31,(1), 53-64.

Surveys and interviews were conducted with Navajo and Anglo parents, and school personnel on the question of what is giftedness. The traditional Navajo description of giftedness was quite different from that of the Anglo description. For example, a gifted child in the traditional Navajo sense shows the following characteristics (which are the *opposite* of the Anglo description): (a) humble and not boastful, (b) oral memory rather than a visual memory, (c) quiet, (d) non-competitive with peers, (e) traditional rather than modern ways of dealing with personal issues, (f) not assertive or opinionated, (g) may not openly express feelings, (h) may submit to peer pressure, (i) little eye contact, (j) may not challenge something that is incorrect, (k) may not be comfortable working independently, (l) not inquisitive.

LaBatte, J. (1991). Nurturing creative/artistic giftedness in American Indian students. Journal of American Indian Education, 31,(1), 28-32.

This article summarizes the opinions of several prominent educators on the subject of identifying and developing creative/artistic giftedness in Native American students. All six educators believe that the approach currently used by the United States Government in identifying Native American gifted students is seriously flawed. In addition, the educators offer several interesting and innovative ideas for program development.

Robbins, R. (1991). American Indian gifted and talented students: their problems and proposed solutions. Journal of American Indian Education, 31,(1), 15-24.

This article contains the author's observations of 125 gifted and talented Native American secondary students who were participating in a gifted education program in Oklahoma. The author identifies many problems routinely confronted by gifted Native American students in the American education system, and offers a number of solutions to these problems.

Shutiva, C. L. (1991). Creativity differences between reservation and urban American Indians. Journal of American Indian Education, 31,(1), 33-52.

The Torrance Test of Creative Thinking, Figural Form B (TTCT-F,B) was administered to 28 urban and 122 reservation Native American eleventh grade students to compare creativity scores and academic achievement. The results indicated that the urban students scored higher in the areas of originality, abstractness of title, resistance to closure and creativity index scores. There was no significant difference between the reservation students and the urban students in academic achievement as measured by their grade point averages.

Tonemah, S. (1987). Assessing American Indian gifted and talented students' abilities. Journal for the Education of the Gifted, 10,(3), 181-194.

The American Indian Research and Development, Inc. (AIRD), in an effort to find and train capable future tribal leaders, has begun to develop a tribally-oriented program to assess and educate its gifted and talented youth in a way that would maximize their abilities and meet the future needs of tribal people. In order to reach their goals, the AIRD has developed a tribal-cultural checklist to help in assessing the students' understanding of tribal culture, abilities and giftedness from the point of view of adult tribal members. The contents of the checklist differs significantly from the contents of the Anglo definition of giftedness. The long range goal of the AIRD is the making of an American Indian Gifted and Talented Academy.

Tonemah, S. A. (1991). Philosophical perspectives of gifted and talented American Indian Education. Journal of American Indian Education, 31,(1), 3-9.

The article historically reviewed the philosophy of Native American education before the event of the European discovery, and the devastating impact the European arrival had on the education of tribal members following their discovery. The American Indian Research and Development, Inc. (AIRD), is designing a program to educate gifted and talented Native American students in a way that will benefit the tribes and break from recent history. Included in the program are the development of an individual education plan that takes into account student interests and preferred learning style (Renzulli's Enrichment Triad Model), non-competitive learning activities, use of Native American instructors and a wholistic approach to teaching.

Program/Personnel Training

Baca, L. and Miramontes, O. (1985). Bilingual special education teacher training for American Indians. Journal of American Indian Education, 24,(2), 38-47.

This paper discusses (1) bilingual special education teacher training in general and (2) field-based Native American teacher training programs. The Navajo Special Education Teacher Development Program (NSETDP) is described in detail. The NSETDP Master's degree program offers classes in Window Rock during the school year and classes on campus at Northern Arizona University during the summer. The NSETDP is designed to reach teachers who live in rural areas and therefore cannot commute to major metropolitan areas during the school year.

Bissmeyer, R. D. (1991). Renewed vision for special education: Kayenta's model of inclusion. Journal of Navajo Education, 8,(3), 28-32.

The special education staff of Kayenta Unified School District, located on the Navajo Reservation in Arizona, expressed concern that the stigma of the traditional pull-out resource room experience was devastating to special education students. In addition, the students' educational needs were not being met and many students would progress at unsatisfactory rates. Kayenta's inclusion program, designed to remedy the aforementioned problems, is described in detail. Regular education and special education are taught in the same classroom, using a cadre-team approach. Eleven key elements of the inclusion model are listed and discussed.

Bluhm, H. P., Finley, R. E., Lodge, N and White, K. (1991). Training Native Americans as school counselors to work with handicapped children of their own race. Journal of Navajo Education, 8,(3), 41-47.

A detailed description of a counselor training program at the

University of Utah is offered to Native American counselors who wish to handle consulting, psychological and behavioral problems of Native American special education students. It is the belief of the authors that Native American counselors could be more effective than the non-Native counselors who lack the knowledge necessary to fully understand the point of view of Native American special education students. Procedures for applying for graduate personnel preparation programs that provide on-site training are described in detail.

Foster, C. G. (1986). Project SERT: special education training for regular educators of Native Americans. Rural Special Education Quarterly, 8,(1), 23-25.

A special education office on the Navajo Reservation surveyed regular education teachers on the topic of teaching special education students, and found that the teachers felt inadequately prepared for the task. Acting on the results of the survey, the University of Arizona designed and implemented project SERT, a training program located on the Navajo Reservation. The project was considered to be a success, as measured by a post-training questionnaire completed by the participating teachers.

Foster, C. G. (1988). Special education program for Native American exceptional students and regular program staff. Rural Special Education Quarterly, 8,(3), 40-43.

The regular education teachers on the Navajo Reservation in Tuba City expressed concern for their inability to adequately meet the needs of mainstreamed special education students. As a result, the Tuba City Boarding School initiated the Summer Special Education Program. This program had two purposes: (1) to provide special education training for regular education teachers and (2) to provide supplemental special education instruction for special education

students. By the end of the summer, teachers and aids reported that they were comfortable with special education procedures as well as with the presence of mainstreamed exceptional students in their regular education classrooms.

Gajar, A. (1985). American Indian personnel preparation in special education: needs, program components, programs. Journal of American Indian Education, 24,(2), 7-15.

This article describes the need for an increase in trained special education personnel to work with handicapped Native American students. The American Indian Special Education Teacher Training Program at the Pennsylvania State University is described in detail. The objectives of the program are (1) to provide program participants with the necessary training to meet the special needs of handicapped Native American students, (2) to prepare Native American educators at the Master of Education level and (3) to identify successful and relevant strategies in preparing Native American special education leaders and personnel.

Kiefer-O'Donnell, R. (1991). Redefining the role of special education: achieving participation and success in one's community and culture. Journal of Navajo Education, 8,(3), 23-27.

A description of the unique role that a rural Native American community plays in the delivery of special education services to students with moderate to severe disabilities is offered. With the common goal to emphasize participation and success within one's own community and culture, the I.E.P. committee includes tasks such as helping to pass out Sunday bulletins at the church, learning beadwork and skin-sewing from a peer tutor, participating in native dances outside of the school, janitorial skills in the school and working part time in the post office. The participating students have

improved their social standing in the community, increased their peer interactions and learned valuable skills that will help them to survive in their culture. Five features that are common to most successful home-community-school partnerships are also presented.

Latham, G. I. (1989). Thirteen most common needs of American education in BIA schools. Journal of American Indian Education, 29,(1), 1-11.

This study was conducted in order to ascertain the most common instructional and management-type needs of BIA schools. From interviews and direct observations, needs related to special education were determined to be as follows: the need to more precisely define learning disabilities, to improve cooperation and coordination between regular and special education, to establish functional relationships between student Individual Education Plans (IEP) and classroom instruction, and to improve parental involvement in the schools.

Latham, G., West, R. and Collins, S. C. (1985). Prescriptive behavioral intervention at the dorm level. Journal of American Indian Education, 24,(2), 25-37.

A behavioral intervention study was undertaken at a high school dorm for girls in an attempt to improve their conduct during non-school hours while they were living at the dorm. The two paraprofessionals, specially trained in behavior techniques, identified problem behaviors of their six subjects, set goals and gave rewards for meeting the goals. The problem behaviors included consumption of alcohol and drugs, curfew violations, keeping a dirty room and cutting classes. The project demonstrated that the application of behavioral strategies can have positive effects on adolescents living in a dormitory, even if the intervention is managed by paraprofessionals.

Sebastian, J. (1991). How do we keep them out in the field? Preparing special educators in rural school districts. Journal of Navajo Education, 8(2), 24-26.

An effective model distance education program for training rural special education teachers is described. The University of Utah recruits local members of rural communities who wish to become special education teachers, and provides them with trained master teachers as well as with televised courses that are video taped at the university. These courses are then presented locally, thereby facilitating the training of rural community members who live hundreds of miles from the nearest university. The program has continued to grow since its inception in the early 1980's, and has successfully prepared over 80 special education teachers. Over eighty percent of the teachers who have completed the distance education program remain in their local communities teaching students with handicaps. The high success rate provides considerable help for school superintendents who find it a difficult if not impossible task to recruit special education teachers in isolated rural communities.

Stuecher, U., Grossman, E., Hakala, N. and Kozlowski, G. (1985). Training project for Indian school liaison and support personnel in special education. Journal of American Indian Education, 24,(1), 9-19.

A training program for Native American paraprofessional liaison and support personnel was administered to 55 people, mostly women, to work with Native children and parents in public schools and residential programs. The liaisons' primary function was to act as a bridge between the school and the home in order to improve communication. Data from formal advocacy contact reports indicated that the trained paraprofessionals performed their duties very well, especially in the area of professional communication abilities.

Culture/Language

Bowker, A. (1992). The American Indian female dropout. Journal of American Indian Education, 31,(3), 3-20.

The purpose of this study was (1) to find the contributing factors to the success of Native American females who stay in school and graduate, and (2) to determine the contributing factors to the lack of success of Native American females who drop out of school. It was also the intention of the author to develop a research project that could augment or replace the current practices in Native American education. Approximately 51% of the Native American females who participated in the study dropped out because of pregnancy. Apart from this statistic, no one characteristic could describe the women who dropped out. Many women from so-called high risk groups achieved considerable academic success, and many women who were from the so-called low risk group dropped out. Of the girls who succeeded in school, the main factor was the support of their families, especially their mothers and grandmothers. Those who achieved success pointed to home environments with rules and restrictions as well as good parental role models. The article also contains excerpts from the book, *Sisters in the Blood*, which was scheduled for release in May, 1992.

Brandt, E. A. (1992). The Navajo area student dropout study: findings and implications. Journal of American Indian Education, 31,(2), 48-63.

Data collected from a school characteristic survey questionnaire and an analysis of enrollment data from schools on and near the Navajo Reservation were used to study the nature of and major reasons for the Navajo student dropout problem. Major contributing factors to the dropout problem include a history of high dropout rate in BIA schools,

boredom with school, transportation problems, pervasive institutionalized racism and lack of encouragement in the home. Academic problems do not seem to be a primary reason for dropping out.

Cantrall, B., Peete, L. and Fields, M. (1990). Navajo culture as a bridge to the rest of the world: a case study in empowerment. Journal of Navajo Education, 8,(1), 6-13.

A description of a successful attempt to weave the Native American culture into the regular school curriculum in a school on the Navajo Reservation is offered in this article. Thanks to site-based management, a caring school staff and a cooperative community, the Greasewood School was able to do away with such inappropriate practices as required CTBS testing and supplementary Native American curriculum, and replace it with bilingual/bicultural education, the whole language approach to language development, Navajo culture, as well as traditional Navajo folk tales and ceremonies. The authors, who are members of the school staff, have multiple goals for their school: the teaching of facts, the teaching of processes and the teaching of self-worth.

Cunningham, K., Cunningham, K. and O'Connell, J. C. (1986). Impact of differing cultural perceptions on special education service delivery. Rural Special Education Quarterly, 8,(1), 2-8.

Recognizing that education delivery systems have failed because of a lack of sensitivity to traditional cultural values and beliefs, the author has promoted the family systems approach for delivering special education services to handicapped Native American students. A distinction is drawn between Anglo and Native American views of family, school, success and the cultural perceptions that influence special education. Strategies for studying the different cultural

perceptions are discussed.

Eberhard, D. R. (1989). American Indian education: a study of dropouts, 1980-1987. Journal of American Indian Education, 29,(1), 32-40.

Urban secondary Native American dropout characteristics was the focus of this study. Parent and pupil group interviews, along with an urban district's dropout statistics were used to examine six possible contributing factors to the dropout rate. Contributing to the dropout rate were a poor academic record, single parent families, high rate of family mobility, attendance in schools with poor graduation rates and affiliation with specific tribes.

Erasmus, C. C. (1989). Ways with stories: listening to the stories Aboriginal people tell. Language Arts, 66,(3), 267-275.

The author studied styles of discourse of a number of Native American peoples and discussed the mismatch between these styles and what is expected in the typical North American classroom. For example, at times it is improper for a Native American public speaker to arrive at a conclusion about a topic, whereas an Anglo public speaker is expected to lead the listeners toward a decision. It was suggested that many Native American students have difficulties in school because their teachers do not understand the difference in discourse styles.

Leap, W. L. (1991). American Indian English. Journal of Navajo Education, 8,(3), 50-55.

The author states that the development of English language instructional methods and materials designed for Native Americans should take into account the type and level of English that the student brings into the classroom. In addition, the use of

non-standard English must be respected, as it is a necessary form of communication in Native American homes and communities. Many Native American students speak non-standard English, and classroom English is often difficult for them. Speech patterns from the various languages should be understood, or at least taken into account by teachers who develop curriculum. These efforts must be coordinated accross grade levels, mainstreaming and special education, and district boundaries.

Ledlow, S. (1992). Is cultural discontinuity an adequate explanation for dropping out? Journal of American Indian Education, 31,(3), 21-36.

This article reviews recent literature on the reasons for the high incidence of dropping out among Native American students. The majority of the research focuses on the area of cultural discontinuity between the school and home cultures. The author then suggests that such factors as economics, long distance commutes to school, pregnancy, and social structure may be more significant in the Native American student's decision to drop out than language and cultural differences. The author urges that further research into the problem of Native American dropouts devote equal attention to variables outside of the school.

Little Soldier, L. (1989). Sociocultural context and language learning of Native American pupils. Journal of Rural and Small Schools, 3,(2), 2-6.

The author believes that there are many cultural and linguistic barriers between the home and school environments that contribute to the poor academic record of Native Americans. In an effort to bring down some of those barriers, this study was conducted to determine the optimum classroom language learning environment for Native American students. Classrooms were observed and rated based on the students'

opportunities to use oral and written language in a variety of settings. The optimum classroom learning environment was found to be informally organized, where students as well as teachers shared the locus of control, where there was evidence of cooperative learning and informal dialog patterns, and where students were given the opportunity to speak and write about culturally relevant topics.

Martin, Jr., W. E. (1991). Career development and American Indians living on reservations: cross-cultural factors to consider. The Career Development Quarterly, 39,(3), 273-283.

The author discussed factors that may affect the career development process of Native American students and adults, both disabled and non-disabled. The factors that must be considered when advising on vocational issues include the following: Native American custom of passing a vocation from generation to generation within a family, geographical isolation of the reservation, lack of culture-fair assessment, lack of familiarity with the nature of various occupations (world of work knowledge) and many pressures that are hard for non-Natives to understand. Special attention must be paid to the added pressures on, and restricted labor market of Native Americans with disabilities.

McCarty, T. L. (1989). School as community: the Rough Rock demonstration. Harvard Educational Review, 59,(4), 484-503.

The author discusses the historical significance of the Rough Rock Demonstration School, the sociopolitical events that lead to its creation, the impact of the school on the community and the potential impact on Native American schools throughout the country. The Rough Rock Demonstration School is the first school on the reservation to be overseen by a locally elected, all-Native American governing board,

and the first to include systematic instruction in the native language and culture.

McCarty, T. L., Wallace, S. and Lynch, R. H. (1989). Inquiry-based curriculum development in a Navajo school. Educational Leadership, 46,(5), 66-71.

This article reported on the development of a bilingual, bicultural, inquiry-based curriculum at the innovative Rough Rock Demonstration School on the Navajo Reservation. The Rough Rock Demonstration School is unique in that the local community has taken control of the curriculum and integrated Navajo language and social studies with conventional courses of study. The Rough Rock Demonstration School can serve as a model for other schools on reservations throughout the country because of its local control of school policy and the multicultural orientation of its curriculum.

McLaughlin, D. (1989). Power and politics of knowledge: transformative leadership and curriculum development for minority language learners. Peabody Journal of Education, 66,(3), 41-60.

The author examines how the community leaders' understanding of power plays a central role in the development of program and curriculum, and cites a community-controlled school on the Navajo Reservation as an example of effective understanding and use of power and politics. Effective use of political power can "build a bridge" between Native American students' home culture and the school environment.

O'Neill, G. P. (1987). The North American Indian in contemporary history and social studies textbooks. Journal of American Indian Education, 26,(3), 22-28.

An examination of ongoing status of the Native American in contemporary American and Canadian textbooks was attempted to

ascertain whether or not there have been improvements in the nature of their depiction. Past depictions include the stereotypes of alcoholic, blood-thirsty, hostile savages. Findings showed some improvement in the use of degrading, biased language, but little change has been found in the actual content of the textbooks. These inaccurate depictions contribute to the isolation and poor self-concept felt by Native American students.

Oppelt, N. T. (1989). Cultural values and behaviors common among Tribal American Indians: a resource for student service administrators. NASPA Journal, 26,(3), 167-174.

In an effort to improve the school experiences of Native Americans, the author listed and described many common cultural differences between Native Americans and Anglos, hoping that school personnel would take these differences into consideration when designing and presenting curriculum. Some of these differences include time perspective, sharing of wealth, cooperation and group membership, concern for family, spiritual needs, attribution and group dynamics.

Sawyer, D. (1988). The writing process and Native students. Canadian Journal of Native Education, 15,(2), 15-21.

The author reviewed literature on the subjects of (1) identification of factors that impede Native American students' writing process, and (2) examples and models that have been used to facilitate the success of Native American students' attempts at writing. Among the main impediments to writing are a feeling that one cannot shape his or her social reality, and a lack of trust and understanding of English. Many useful suggestions for stimulating the writing process are offered.

Scott, W. J. (1986). Attachment to Indian culture and the "difficult situation". Youth and Society, 17,(4) 381-395.

Data on 101 Native American students in Oklahoma was compiled and analyzed to look for predictors of academic success in high school and college. The findings indicate that students who hold close cultural ties to their Native American heritage are more likely to fail because of lack of ability to integrate into the school community. The Native students who are less attached to Native culture have a higher chance of success in school. In order to improve their chances of academic success, the author stresses the need for Native American students to master White ways on their own terms and still be able to maintain commitment to Native values and traditions.

Shonerd, H. G. (1990). Domesticating the barbarous tongue: language policy for the Navajo in historical perspective. Language Problems and Language Planning, 14,(3), 193-208.

The author traces the history of the Spanish and Anglo attempts to suppress and replace the Navajo language with European languages for reasons of religious ideology. The result of these efforts is evident in the widespread *semilingualism*, the lack of proficiency in both English and Navajo. Lack of understanding of semilingualism on the part of educators is responsible for high rates of Navajo placement in classes for the communication disordered. It is recommended that schools demonstrate respect for Navajo students' spoken language so that students will develop the ability to affirm their cultural identities, and that Navajo community members actively participate in educational policy making regarding language development in their classrooms.

Vogel, V. J. (1987). The blackout of Native American cultural achievements. American Indian Quarterly, 11,(1), 11-35.

European historians have overlooked and denied many Native American cultural achievements for centuries, even in the face of overwhelming evidence of their existence. This paper examined these denials in only three areas: medicine, the manufacture of maple sugar and the use of fertilizer, and found abundant early literature to support these Native American achievements. Recognition of these and other historical accomplishments, and therefore the respect for Native cultures and Native people, is long overdue.

Cognitive Style

Brown, D. B. (1990). Learning styles and Native Americans. Canadian Journal of Native Education, 17,(1), 23-35.

The author selected a few researchers' descriptions of learning styles and cognitive styles that seemed to be particularly useful to teachers, and elaborated on the model she called hemisphericity. The author pointed out that left hemisphere learners were better achievers in school, and that most Native Americans were right hemisphere learners. Many suggestions for curriculum modifications were offered, as were her ten criteria for a reading program that would allow right hemisphere learners a chance to succeed at learning to read.

Chrisjohn, R. D. and Peters, M. (1986). The right-brained Indians: fact or fiction? Journal of American Indian Education, 25,(2), 81-87.

The authors expressed concern over the possible effects of the growing amount of research concluding that Native Americans are right hemisphere learners. Much evidence of an "anatomical" nature is often manipulated in order to prove the superiority of the Anglo over ethnic minorities. In addition, the authors point out that damage in the area of education of Native Americans could result when educational strategies are linked with left- or right-brain learning. Such attitudes as, "why bother to teach Native American children things they are not capable of learning?" may result from right-brain curriculum design.

Diessner, R. and Walker, J. L. (1986). A cognitive pattern of the Yakima Indian students. Journal of American Indian Education, 25,(2), 39-43.

Using Bannatyne's recategorized WISC-R and WAIS scores, the authors attempted to examine whether Yakima students, whose primary

language is English, exhibited the same cognitive learning styles as other Native American students. The same pattern was found (spatial ability higher than sequential ability, sequential ability higher than verbal ability). The authors speculated that a possible cause for this pattern could be that spatial processing (right brain) may interfere with left brain hemisphere processing, resulting in decreased linguistic processing. Another possible cause that was mentioned was the high incidence of otitis media which contributes to deficits in linguistic processing.

Foreman, K. (1991). Native teaching and learning/dramatic teaching and learning. Youth Theatre Journal, 5,(3), 16-20.

The teaching methods used in educational drama classes were analyzed for their compatibility with the learning styles that researchers have identified as being favored by Native American students. The dramatic teaching methods that are commonly used and thought to be compatible with Native learning styles are as follows: watch-then-do, think-then-do, using a holistic approach to get the "big picture" in order to provide context for a particular scene, small group (collective creation) interaction, visual-spatial methods to create imaginary situations as well as other forms of non-verbal communication strengths, the use of stories to convey meaning, and tactile stimulation.

Haukoos, G. D. and Satterfield, R. (1986). Learning styles of minority students (Native Americans) and their application in developing a culturally sensitive science classroom. Community/Junior College Quarterly, 10,(3), 193-201.

This study of Native American entry level college biology students was conducted in order to learn more about their learning styles and to recommend changes in teaching strategies based on the

results of the study. The Learning Styles Inventory, Form C (LSI) was administered on the first day of biology class to a group of Native American biology students as well as to a group of non-Native students. The results indicated that there are four significant differences in learning style characteristics. From the results, the teacher implemented several changes into the course to accommodate the Native Americans' exhibited skills. A very high course success rate and completion rate was noted by the authors.

Henry, S. L. and Pepper, F. C. (1990). Cognitive, social and cultural effects on Indian learning style: classroom implications. The Journal of Educational Issues of Language Minority Students, 7, 85-97.

Learning style is examined using three dimensions: (1) thinking and reasoning, (2) social effects and (3) the biological elements involving physiology, nutrition, health and sex-related differences. The effects of home culture, child rearing practices and cultural incongruities on learning style are also discussed. Various teaching strategies designed to support the Native American student are offered.

Macias, C. J. (1989). American Indian academic success: the role of indigenous learning strategies. Journal of American Indian Education, special issue, 29, 43-52.

Interviews were conducted with eleven successful Native American female graduate school students in order to discover what strategies they had developed on their way to experiencing such academic success. The women identified many common difficulties as well as coping strategies to overcome these difficulties. Some of these strategies were: keeping with a systematic study schedule, use of multimodal learning styles such as combining reading with writing, reading aloud,

including physical movement in their studying, and visualization techniques.

Moore, A. J. (1987). Native Indian students and their learning styles: research results and classroom applications. B. C. Journal of Special Education, 11,(1), 23-37.

The author examines literature on learning styles under the four headings of (1) internal processes (global/analytic, imagery/verbal, impulsive/reflective, trial-and-error/watch-then-do, field dependence-independence, concrete/abstract), (2) external conditions, (3) teaching and communication styles, and (4) traditional learning styles. Problems in research, caused by a lack of uniformity for the term "learning style", are also discussed. The paper discusses a number of possible classroom suggestions for the implementation of Native learning styles.

More, A. J. (1987). Native Indian learning styles: a review for researchers and teachers. Journal of American Indian Education, 27,(1), 17-29.

Research on learning styles was summarized and presented under the headings of internal cognitive process, external conditions, teaching and communication styles and traditional learning styles. Some strengths that are frequently mentioned in literature include global processing, simultaneous processing, visual/spatial processing, using imagery for coding rather than verbal coding, and reflective learning (learn by watching) rather than impulsive learning (trial-and-error).

Osborne, B. (1985). Research into Native North Americans' cognition: 1973-1982. Journal of American Indian Education, 24,(3), 9-25.

This paper reviewed ten years of journal articles on the topic of Native Americans' cognition and grouped them under five headings: (1)

visual perception and cognitive style, (2) perception of self, time, information needs and the world, (3) Piagetian tasks, (4) reading and bilingual education and (5) cognitive strengths. The groupings were then evaluated against J. S. Kleinfeld's findings in her studies on cognitive styles of Inuits. Given the many weaknesses of the studies reviewed, the author declared that it is very difficult to draw conclusions on Native Americans' cognitive styles.

Pepper, F. C. and Henry, S. L. (1986). Social and cultural effects on Indian learning style: classroom applications. Canadian Journal of Native Education, 13,(1), 54-61.

The author examined the child's outer environment and its effects on learning style. The outer environment, as described, consisted of family atmosphere, family constellation (the relationship of family members to one another) and child-rearing/discipline practices. The author believes that learning styles evolve naturally from the outer environment. The paper concludes with a list of classroom implications that take into account learning style, and a reminder that stereotyping a child's learning style may contribute to an inferior education. One damaging example of an inferior strategy would be not teaching verbal skills to a Native child because his/her learning style is non-verbal.

Rhodes, R. W. (1988). Holistic teaching/learning for Native American students. Journal of American Indian Education, 27,(2), 21-29.

In the search for reasons for the lack of success of Native Americans in Anglo-style school situations, the author has attempted to show that there is probably a difference in observational and thinking processes for Native Americans raised on a reservation than for Native Americans and non-Native Americans who are not raised on a

reservation. Teachers can therefore develop appropriate classroom activities by utilizing haptic, holistic and right brained learning styles that are favored by Native Americans.

Rhodes, R. W. (1990). Measurements of Navajo and Hopi brain dominance and learning styles. Journal of American Indian Education, 29,(3), 29-40.

Using Navajo and Hopi students, teachers, and non-teaching adults as subjects, a brain hemispheric dominance and learning style preference study was performed. The *Hemispheric Mode Indicator* and the *Learning Style Inventory* were administered. The results indicated significant differences from national norms for all Navajo and Hopi subgroups, and imply a mismatch between the teaching style found in most schools and the learning styles of most Navajo and Hopi students.

Sawyer, D. (1991). Native learning styles: shorthand for instructional adaptations? Canadian Journal of Native Education, 18,(1), 99-105.

The author reviewed literature on the topic of Native learning styles and presented the view that many studies on the topic go beyond the definition of learning styles and are therefore vague and ambiguous. Many orientations to learning can be attributable to such causes as child rearing practices and the culturally-based "interference theory" (classrooms are not structured to allow Native students to display competence). Conclusions from many studies are based on small samples, and some patterns are preferred by just over half of the sample. However, such studies have value in that they might suggest alternative ideas that can be used to increase teacher sensitivity in specific situations.

Shade, B. J. (1989). The influence of perceptual development on cognitive style: cross ethnic comparisons. Early Child Development and Care, 51, 137-155.

This paper examined the perceptual patterns of Native Americans and Afro-Americans to determine how their perceptual development influences the way they process information. Such topics as person vs. object orientation, modality preferences, field dependence-independence and visual cues are discussed. The paper concluded by including cognitive style profiles for the two groups.

Stellern, J., Collins, J., Gutierrez, B. and Patterson, E. (1986). Hemispheric dominance of Native American Indian students. Journal of American Indian Education, 25,(2), 8-17.

Dual-task experiments (finger tapping concurrently with a number of reading and spatial problem solving tasks) were used to examine the language and spatial lateralization of 49 Native American students in the fourth, fifth and sixth grades. The results indicated that the subjects in this study have language lateralization to the left hemisphere, and some also have the spatial function to the left hemisphere. The author summarized that the Native American students in this study are not right hemisphere dominant and therefore do not need right-minded teaching techniques.

Swisher, K. (1990). Cooperative learning and the education of American Indian/Alaskan Native students: a review of the literature and suggestions for implementation. Journal of American Indian Education, 29,(2), 36-43.

The author reviewed and summarized the findings of several researchers on the subject of Native American students and competition or cooperation in the classroom. In general, competition in the "team" sense has been used successfully in Native American classrooms. However, the type of competition in which recognition of the "winner" implies a negative attitude toward the "loser" is not acceptable, as

Native American children are not willing to be singled out or "spotlighted" in this way. Several team learning techniques that have been extensively researched and found to significantly increase learning are described in this article.

Swisher, K. and Deyhle, D. (1987). Styles of learning and learning of styles: educational conflicts for American Indian/Alaskan Native youth. Journal of Multilingual and Multicultural Development, 8(4), 345-360.

This article reviews literature on Native Americans and cognitive style in three different categories: learning style, interactional style and teaching style. The learning style category includes topics such as spatial/visual ability, observation and field dependence/independence. The interactional style category includes topics such as cooperative vs. competitive situations, classroom organization and the demonstration of knowledge. The teaching style category includes such topics as teacher understanding of culturally specific behaviors, group vs. individual orientation and multisensory instruction.

Swisher, K. and Deyhle, D. (1989). The styles of learning are different, but the teaching is just the same: suggestions for teachers of American Indian youth. Journal of American Indian Education, special issue, 29, 1-14.

This paper illustrated several learning styles with specific examples, and followed with a summary of supporting literature for each learning style. The styles that were featured were: visual learning, field-dependence/field-independence, public and private talk, and cooperating vs. competing. The paper concluded with a discussion of ways to apply learning preferences into practice in the classroom.

Walker, B. J., Dodd, J. and Bigelow, R. (1989). Learning preferences of capable American Indians of two tribes. Journal of American Indian Education, special issue, 29, 63-71.

The Walker Learning Preference Scale was completed by 28 adolescent Native American students to determine if there was a preference in learning styles for the group. Nine of the fifteen males, and six of the thirteen females in the group selected the Patterned Symbols learning preference. The typical patterned symbols learner prefers a group oriented, non-competitive learning environment where he/she can draw personal symbolic relationships between the previously acquired knowledge and the new information. The author offered suggestions on adapting curriculum to the demonstrated learning preference.

CONCLUSIONS/IMPRESSIONS

The journal articles featured in this bibliography cover many aspects of the state of Native American special education in the 1990's. Some aspects have been adequately researched, some aspects have been over-researched and other topics suffer from lack of reported scientific data. This researcher offers his opinion of the state of the literature found in professional journals in the past eight years. This opinion has been separated into the seven sections found in the bibliography. In addition, suggestions of topics that future researchers may consider have been offered in the final section of this conclusion.

Assessment

Bias in the assessment of Native American students with special needs has been discussed extensively. A number of articles discuss the need for alternative methods of assessment measures as well as using more naturalistic testing procedures. Test results that indicate poor performance of Native American students on verbal subtests of many popular measures are also extensively discussed. The literature is lacking, however, in specifically suggesting or developing verbal measures that will identify true learning handicaps and distinguish them from cultural/linguistic differences.

Health Issues

Many informative articles on alcohol, drugs, and substance abuse have been included for the following reasons: (1) substance abuse can cause brain damage in the abuser and lead to the formation of a handicapping condition, (2) substance abuse is a symptom of emotional disturbance, (3) substance abuse can be the cause of many handicapping

conditions to unborn babies, and (4) the effects of substance abuse can be mistaken for handicapping conditions, and therefore lead to an erroneous identification, if the educational diagnostician is unaware of the student's use of substances. Several innovative articles on education and management of alcohol and drug use have also been included. In addition, this section contains articles designed to educate students and teachers on such important topics as suicide, high mortality rates, AIDS awareness, mental health, sexual abuse and the etiology of student delinquency.

Learning Handicaps

There is a distinct lack of recent research on the subject of Native American students and handicapping conditions. Many studies can be done on the efficacy of applying various teaching strategies, methods, materials, and procedures on Native students who are currently enrolled in special education programs. Some of the reasons for the lack of research on such important topics may include the following: (1) the Native American's historical mistrust of Anglo American intentions, (2) geographical barriers, such as long distances, between universities and reservation schools, (3) lack of perceived relevance of such studies on the part of Native American communities, and (4) many children who are identified as handicapped by the schools are not seen as handicapped by the Native American community. However, the handicapping characteristics of Native American students who have had otitis media, or middle ear infection, are well described in the recent literature offered in this bibliography.

Gifted

The definition of giftedness is discussed in detail throughout this section. Special attention is paid to comparing the traditional Anglo definition of giftedness to the somewhat different Native American definition, and to the problems that are caused when the Anglo definition is used in the identification process of Native American gifted children. The literature does not, however, offer many solutions to the problem of identification of the gifted that are acceptable to both the Native American and the Anglo cultures.

Program/Personnel Training

Various excellent descriptions of personnel training programs for both regular and special education teachers, educational assistants, counselors, liaisons, and support personnel are discussed in this section. Of particular interest are the articles that describe field-based programs that are designed to train residents of the local communities to work in their school in special education capacities. The field-based programs usually offer university credit for attending classes close to their homes on the reservation, which in most cases are located hundreds of miles from the university.

Culture/Language

The articles in this section address the bilingual/bicultural component of the bilingual special education program, and are also suitable for those who wish to apply the content to regular education settings. Some of the issues discussed in this section include cultural incongruencies that can be responsible for school failure, historical issues such as the Anglo attempts to eradicate Native American languages and hide Native American accomplishments, and descriptions of successful bilingual/bicultural school programs.

Cognitive Style

This section contains twenty articles on the subjects of learning style, cognitive style and laterality. Although there are undoubtedly many useful ideas in these articles, it is the opinion of this researcher that there is not as much useful content in this section as the volume of articles would lead one to believe. The conclusions reached by the authors are repeated several times throughout this section. Nevertheless, it would behoove the teachers of Native American students with special needs to become familiar with the cognitive styles that are prevalent in their classrooms.

Suggestions for Future Researchers

The following list of suggestions have been compiled to help students and teachers choose topics that have not been thoroughly researched, and to introduce possibly valuable sources that are not currently found when conducting ERIC searches:

* alternative verbal measures need to be developed to aid in the assessment and identification of Native Americans with learning handicaps,
* alternative approaches for controlling and preventing substance abuse among Native American adolescents,
* more scientific studies need to be conducted to test the efficacy of new approaches to teaching Native American students with learning handicaps,
* gifted student identification procedures and educational programs that are agreeable to both cultures have yet to be developed,
* field-based teacher training programs should be initiated at the high school level in order to capture the interest of younger Native

American students,

* more scientific studies can be performed and published, thereby replacing the over-used survey method of gathering data,
* Native Americans should be looked upon as a heterogeneous group and classified by tribal affiliation, rather than treated as a homogeneous group without regard to individual tribal characteristics,
* *Journal of Navajo Education* articles will not be found in an ERIC search, but should be consulted when conducting research on issues pertaining to education of Native Americans of the Southwest.

Appendix

Descriptors Used For ERIC Search

1. American Indians and learning disabilities
2. American Indians and communication disorders
3. American Indians and behavior disorders
4. American Indians and mental retardation
5. American Indians and physical disabilities
6. American Indians and dyslexia
7. American Indians and mental disorders
8. American Indians and behavior modification
9. American Indians and behavior problems
10. American Indians and reading difficulties
11. American Indians and reading improvement
12. American Indians and reading strategies
13. American Indians and reading failure
14. American Indians and evaluation
15. American Indians and assessment
16. American Indians and attention deficit disorder
17. American Indians and hyperactivity
18. American Indians and developmental disabilities
19. American Indians and language handicaps
20. American Indians and learning problems
21. American Indians and minimal brain dysfunction
22. American Indians and writing difficulties
23. American Indians and aphasia
24. American Indians and holistic reading
25. American Indians and cognitive styles
26. American Indians and learning theories
27. American Indians and annotated bibliography and special education

28. American Indians and special education

29. American Indians and cultural pluralism

30. American Indians and biculturalism

31. American Indians and acculturation

32. American Indians and cultural differences

33. American Indians and culture

34. American Indians and culture conflict

35. American Indians and multicultural education

36. American Indians and culture-shock

37. American Indians and ethnocentrism

38. American Indians and religious conflict

39. American Indians and social differences

40. American Indians and hearing impairments

41. American Indians and visual impairments

42. American Indians and bilingual special education

43. American Indians and speech handicaps

44. American Indians and hearing therapy

45. American Indians and speech and hearing clinics

46. American Indians and child health

47. American Indians and mental health

48. American Indians and chronic illness

49. American Indians and health conditions

50. American Indians and health needs

51. American Indians and prenatal influences

52. American Indians and radiation effects

53. American Indians and special health problems

54. American Indians and alcohol education

55. American Indians and drug education

56. American Indians and heart disorders

57. American Indians and diabetes

58. American Indians and braille

59. American Indians and neurological impairments

60. American Indians and adaptive physical education

61. American Indians and normalization

62. American Indians and Special Olympics

63. American Indians and bilingual education

64. American Indians and second language learning

65. American Indians and visual learning

66. American Indians and verbal learning

67. American Indians and multisensory learning

68. American Indians and cooperative learning

69. American Indians and exceptional persons

70. American Indians and language research

71. American Indians and reading research

72. American Indians and writing research

73. American Indian Reservations and schools

74. American Indian Reservations and special education

75. Navajo and special education

76. Navajo and cognitive styles

77. Navajo and learning theories

78. Navajo and learning disabilities

79. Navajo and communication disorders

80. Navajo and behavior disorders

81. Navajo and mental retardation

82. Navajo and physical disabilities

83. Navajo and mental disabilities

84. Navajo and language handicaps

85. Navajo and writing differences

86. Navajo and speech handicaps

87. Navajo and multicultural education

88. Hopi and special education

89. Hopi and learning theories

90. Hopi and multicultural education

91. Hopi and learning disabilities

92. Hopi and communication disorders

93. Cherokee and special education

94. Cherokee and multicultural education

95. Cherokee and learning theories

96. Sioux and special education

97. Sioux and learning disabilities

98. Sioux and learning theories

99. Sioux and communication disorders

100. Sioux and multicultural education

101. Canada Natives and bilingual education

102. Canada Natives and multicultural education

103. Canada Natives and learning disabilities

104. Canada Natives and communication disorders

105. Canada Natives and behavior disorders

106. Canada Natives and language handicaps

107. Canada Natives and learning theories

108. Canada Natives and special education

109. Canada Natives and physical disabilities

110. Canada Natives and mental retardation

111. Canada Natives and alcohol education

112. Canada Natives and drug education

113. Canada Natives and writing difficulties

114. Canada Natives and reading difficulties

115. Canada Natives and mental disorders

116. Canada Natives and reading improvement

117. Canada Natives and reading failure

118. Canada Natives and minimal brain dysfunction

119. Canada Natives and mental health

120. Canada Natives and health needs

121. Canada Natives and diabetes

An Annotated Bibliography of Journal Articles

on the Subject of Native American Students

With Special Needs

1985-1992

Robert J. Hutchinson

Descriptors for project

1. _____

2. _____

3. _____

UNM examining committee

Dr. Barrera

Dr. Nielsen

Dr. Valles

date: October 27, 1992

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Table of Contents

Introduction	Page 1
Method	Page 2
Annotated Bibliography on Assessment	Page 4
Annotated Bibliography on Health Issues	Page 13
Annotated Bibliography on Learning Handicaps	Page 21
Annotated Bibliography on Gifted	Page 25
Annotated Bibliography on Program/Personnel Training	Page 28
Annotated Bibliography on Culture/Language Issues	Page 33
Annotated Bibliography on Cognitive Style	Page 42
Conclusions/Impressions	Page 51
Appendix: Descriptors Used for ERIC Search	Page 56

INTRODUCTION

There are many obstacles that one must overcome in order to effectively research a subject in the area of education. Among these obstacles is finding an adequate number of accurate sources of information pertaining to a chosen subject. Given the time constraints that most students must live with, there is nothing more disheartening than to build enthusiasm for gaining knowledge in a certain area of study, only to find a very limited amount of pertinent literature available from which to choose. As a result, the student will most likely (a) change his or her topic to fit the amount of literature that is easily accessible or (b) submit an inferior product based on the small amount of literature that he or she was able to find in the allotted time.

The purpose of this project is to provide a comprehensive list of recently written, high quality journal articles that relate the subject of Native Americans with pertinent subjects such as special education, handicapping conditions, social and medical issues that may contribute to handicapping conditions, and alternative teaching methods that can be used to help Native Americans in special education settings. From his participation in many classroom discussions at the University of New Mexico, the researcher has concluded that there exists significant interest in the aforementioned topics among educators. An annotated bibliography is therefore offered to encourage educators to more easily avail themselves of information that would be of assistance in special education classrooms that contain Native American students. It is believed that if educators of Native American children with special needs had convenient access to this annotated bibliography, the quality of the children's education would be positively affected.

Method

An extensive ERIC computer search of journal articles was conducted at the Zimmerman Library on the campus of the University of New Mexico in June, July and August of 1992. A complete list of descriptors used in this search is listed in the Appendix. Care was taken to search only journal articles published after December 31, 1984. The Education Index was manually searched and compared to the results obtained from the ERIC search. The reference sections of all articles were checked for journal articles that may not have been included in the ERIC and Education Index searches. In addition to the above searches, the following Journals were manually checked for relevant articles that may have been published subsequent to the latest ERIC file update: Journal of American Indian Education, Canadian Journal of Native Education, American Indian and Alaska Native Mental Health Research, Psychology in the Schools, American Journal of Public Health, American Indian Quarterly, School Psychology Review, Exceptional Children and Bilingual Review.

All articles to be included in the annotated bibliography were selected based on (a) relevance to the subject of Native American students and special education and (b) their possible value as a resource to school personnel and teachers of exceptional Native American students. Articles describing quality research done in Canada were included.

The bibliography is divided into seven sections as follows: Assessment, Health Issues, Learning Handicaps, Gifted, Program/Personnel Training, Culture/Language Issues and Cognitive Style. The *Assessment* section contains articles that pertain to referral, identification and special education placement decisions.

The *Health Issues* section offers information that can help educators to identify and understand medical, substance abuse and psychological problems frequently encountered by Native American students. The *Learning Handicaps* section contains articles and studies specifically related to exceptionalities as defined by federal law. The articles found in the *Gifted* section pertain to issues that involve gifted and talented Native Americans and the need for alternative methods of referral and assessment. The *Program/Personnel Training* section contains articles that describe innovative ideas as well as training programs for educators of Native American students with special needs. The articles in the *Culture/Language Issues* section deal with the effects that Native cultures and languages have on academic success in an Anglo-dominated education system. The *Cognitive Style* section can be a helpful resource for educators who seek alternative methods of presenting lessons. The articles in the latter two sections (Cognitive Style and Culture/Language) may pertain to regular education students as well as to special education students. The researcher has included these sections in the annotated bibliography because of the important role the topics play in the bilingual special education curriculum.

ANNOTATED BIBLIOGRAPHY

Assessment

Carney, L. J. and Chermak, G. D. (1991). Performance of American Indian children with Fetal Alcohol Syndrome on the Test of Language Development. Journal of Communication Disorders, 24,(2), 123-134.

Ten Native American children with diagnosed Fetal Alcohol Syndrome (FAS) and seventeen normally developing Native American children were administered the Test of Language Development (TOLD) in order to compare their expressive and receptive language abilities and find out more about the effects of FAS on the language abilities of afflicted children. The performance of the FAS group was significantly poorer than the control (normal) group on most subsets of the TOLD. However, the older FAS children presented mainly syntactic deficits, whereas the younger FAS children presented more global language deficits.

Chinn, P. C. and Hughes, S. (1987) Representation of Minority students in special education classes. Remedial and Special Education, 8,(4), 41-46.

A study of *Office of Civil Rights, Elementary and Secondary Schools Civil Rights* surveys was performed to determine whether any changes in the nature of the representation of minorities in special education classes was taking place. The data collected showed that Native Americans continued to be overrepresented in classes for trainable mentally retarded and learning disabled, and underrepresented in the classes for gifted and talented. These disproportionate representations, according to the authors, reflect a breakdown in the referral process, in the assessment process, or both.

Common, R. W. and Frost, L. G. (1988). The implications of the mismeasurement of Native students' intelligence through the use of standardized intelligence tests. Canadian Journal of Native Education, 15,(1), 18-30.

The article examines the history of the majority culture's attempts to measure the intelligence of Native Americans, starting with the use of phrenology, followed by measurements of skull capacity and the modern day futile attempts such as the WISC-R. The authors point out that all Anglo attempts have yielded the same inaccurate results. The inclusion of Sternberg's Contextualist Perspective on the assessment of Native Americans' intelligence is discussed as a possible breakthrough in the area of appropriately measuring the intelligence of Native Americans and other culturally different people.

Connely, J. B. (1985). Receptive and expressive vocabularies of young Indian children. Journal of American Indian Education, 24,(1), 33-37.

The Peabody Picture Vocabulary Test-Revised (PPVT-R) and the Wechsler Intelligence Scale for Children-Revised (WISC-R) vocabulary subtest were administered to Native American and non-Native American children to investigate the differences in scores on each test that was attained by the respective ethnic groups. Since the PPVT-R requires less verbal expression than the WISC-R vocabulary subtest, it was hypothesized that the Native American group would score higher on the PPVT-R than on the WISC-R. The results showed that the non-Native American group scored higher on the two measures, but the gap between the Native American and the non-Native American scores on the PPVT-R was significantly less than the gap between the scores on the WISC-R vocabulary subtest. The author concluded that the PPVT-R may present a format which is more compatible with Native American

patterns of interpersonal communication and visual strengths.

Deyhle, D. (1986). A micro-ethnographic comparison of Navajo and Anglo students' perceptions of testing. Curriculum Inquiry. 16,(4), 365-389.

Test results, teacher interviews, student interviews and extensive classroom observations were conducted in an all-Navajo BIA day school and at a predominantly Anglo school for the purpose of examining the structure and presentation of tests such as the California Test of Basic Skills (CTBS) and to compare its effects on the two groups of children. The results indicated that the individual assessments, as well as the public displaying of the results, were culturally incongruent and against the experience and expectations of the Navajo children, whereas the Anglo students accepted and understood the importance of the testing procedure and the public display of the results. The Navajo culture does not value individual accomplishment in the same way as does the Anglo culture. The author urges any person who interprets the results of such tests to bear in mind the cultural discontinuities between the home and school environments of Native American children.

Fifield, M. B. and Fifield, M. G. (1985). The effectiveness of psychoeducational testing reports as perceived by teachers in an intertribal secondary boarding school. Journal of American Indian Education. 24,(2), 16-24.

A combination of questionnaires and interviews were administered to teachers to determine how well certain psychoeducational testing reports communicate test results and programming recommendations to teachers in a Bureau of Indian Affairs secondary boarding school, and to offer suggestions that will improve communication between these reports and the school personnel who use them. The majority of teachers viewed the testing reports favorably and found them to be a

helpful tool in understanding the needs of the students who were being tested. The authors recommended that teachers receive training in understanding what information can be derived from such reports, and that the diagnosticians be careful not to use jargon that can impede communication of vital information.

Fisher, G. L. and Harrison, T. C. (1992). Assessment of alcohol and other drug abuse with referred adolescents. Psychology in the Schools, 29,(2), 172-178.

The authors believe that many Native American adolescent substance abusers who are referred for special education services may be misidentified because the symptoms for handicapping conditions are often similar to the symptoms of drug and alcohol abuse. Such factors as antisocial behavior, hyperactivity, academic failure, rebelliousness, lack of social bonding, cognitive impairment, alienation and behavioral changes are symptomatic of handicapping conditions as well as substance abuse. Procedures that can assist in assessing the likelihood that substance abuse contributes to academic and behavioral problems are discussed.

Larrick, W. R. (1991). A descriptive approach to language assessment. Journal of Navajo Education, 8,(3), 20-22.

The author, a speech/language pathologist, argues that the current language assessment process for special education placement is biased against Navajo children. Instead of the current approach, the author recommends the Descriptive Approach to assessing language of culturally and linguistically different children. The Descriptive Approach is made up of components that include the following: a naturalistic setting for the assessment rather than an artificial setting to meet the requirements of standardization, viewing the child

as a communicator rather than as a language user, two levels of analysis (descriptive and explanatory) and the use of criterion-referencing that focuses on general communicative behaviors.

MacAvoy, J. and Sidles, C. (1991). The effects of language preference and multitrial presentation upon the free recall of Navajo children. Journal of American Indian Education, 30,(3), 33-43.

The Rey Auditory Verbal Learning Test, a neuropsychological memory measure, was administered to eighty primarily Navajo-speaking children ranging in age from eight to ten years. One group was given the test in Navajo and the other group was given the test in English. The authors stated two purposes: to compare test results in the two languages, and to examine results of using a multitrial, free recall testing format to gain an assessment of auditory memory functions. The results showed that the children's recall in their native language was significantly better in the first two trials, with no significant difference in the final three trials. The suggestions were made that: (1) a more accurate measure of recall is attainable when the assessment is performed in the child's native language, and (2) more accurate skill estimates are attainable from memory tests in either language when a multitrial presentation format is used.

Manuel, L. L. (1991). Observations of a bilingual Navajo diagnostician. Journal of Navajo Education, 8,(3), 12-14.

The author, a Navajo psych-educational evaluator of children referred for special education services, retells one of her experiences that convinced her to leave the teaching profession in favor of her current chosen field. "Joe" was referred for his problem behaviors and poor academic record. The author knew that Joe's problems with school were culturally based but the professional

diagnostician, who was insensitive to Navajo students' needs, convinced the evaluation team otherwise. The result was an inappropriate placement in a C-level class. Several faulty assumptions about Navajo students are also listed and discussed.

McCullough, C. S., Walker, J. L. and Diessner, R. (1985). The use of Wechsler Scales in the assessment of Native Americans of the Columbia River Basin. Psychology in the Schools, 22,(1), 23-28.

The Wechsler Adult Intelligence Scale (WAIS) and the Wechsler Intelligence Scale for Children-Revised (WISC-R) were used in a study of Native American junior and senior high school students from the Columbia River Basin. The study was undertaken in part to contribute towards accepting or rejecting certain generalizations regarding the intellectual behavior of Native Americans. The Verbal Scale scores were significantly below the normative mean and the Performance Scale scores were at or above the normative mean. These results were consistent across many studies previously performed with other Native American Tribes. Because these measures may not be accurately assessing the subjects' verbal abilities, the authors advise caution in the use of the WISC-R and the WAIS with Native Americans.

Mishara, S. P., Lord, J. and Sabers, D. L. (1989). Cognitive processes underlying WISC-R performance of gifted and learning disabled Navajos. Psychology in the Schools, 26,(1), 31-36.

This study attempted to relate the Luria-Das Model of successive and simultaneous processes of coding information to the processing styles of learning disabled and gifted Navajo elementary school-age children. Using subtests from the WISC-R, it was hypothesized that the two groups would attack the same tasks by using different processing modes. The results indicated that the gifted group seemed

to prefer the successive processing mode on certain subtests, whereas the learning disabled group preferred the simultaneous processing mode for attacking the same tasks. The authors conclude that the two groups may require differential remedial and intervention procedures depending on their preferred modes of processing information.

Myles, D. W. and Ratzlaff, H. C. (1988). Teachers' bias towards visible ethnic minority groups in special education referrals. B. C. Journal of Special Education, 12,(1), 19-27.

Completed questionnaires were returned from 347 public elementary school teachers in Vancouver and used to investigate the possible presence of bias toward visible ethnic minority groups in special education. The questionnaire described a child who was experiencing academic and behavioral problems. The only difference between the questionnaires was that child was randomly described as being either Caucasian, Native Canadian, Oriental or East Indian. The analysis of the responses provided evidence of negative bias against the Native Canadian. The children described as Oriental and Caucasian experienced a positive bias. The authors suggest that this study provides evidence that visible ethnic minority groups, especially Native Canadians, are discriminated against in most educational settings.

Persi, J. and Brunatti, G. (1987). Cognitive measures and cultural bias: a comparison of the performances of Native and non-Native low achievers. Canadian Journal of Native Education, 14,(1), 15-18.

This study was conducted to evaluate whether low achieving Ojibway children who had been referred for psychological assessment because of scholastic difficulty would perform better on the Category Test (Reitan, 1956) than low achieving non-Native children. The

Category Test assesses matching an underlying principle to different visual patterns and is hypothesized to be a less culturally biased measure of Native Americans' cognitive skills. The results support the hypothesis in that the Ojibway children performed as well as non-Native children on the tasks found in the Category Test. However, the traditional IQ tests are more appropriate as predictors of academic difficulty in non-Native children.

Plank, G. A. (1991). Features of Navajo children's Draw-A-Person samples and possible self-concept interpretations. Journal of Navajo Education, 8,(3), 15-19.

Over 400 Draw-A-Person samples from Navajo children were analyzed in an effort to study their development of self-esteem. The results (abnormally small pictures) indicate that Navajo boys attending elementary school may be experiencing a problem with self-concept that begins before kindergarten. Navajo girls created larger drawings than the boys in every grade. The author asks whether the apparent low self-concept of Navajo boys could be a factor in the prevalence of problem drinking among Navajo males versus Navajo females.

Stone, B. J. and Gridley, B. E. (1991). The bias of a kindergarten screening battery: predicting achievement for White and Native American elementary students. School Psychology Review. 20,(1), 132-139.

A kindergarten screening battery (KSB), composed of results from the Peabody Picture Vocabulary Test-Revised (PPVT-R), the Kindergarten Language Screening Test (KLST), the Beery Developmental Test of Visual-Motor Integration (VMI), and the McCarthy Draw-A-Child Test (DAC) was administered to 591 White and 183 Native American elementary school children, and then compared to the subjects' Stanford Achievement Test total battery scores to see how well the KSB predicted achievement for the two ethnic groups. As expected, the

White group scored higher on the language-based tests and the Native American group scored higher on the visual-motor tests. Based on the results of the KSB, achievement scores of the Native American group were overestimated, whereas the White group's scores were underestimated.

Health Issues

Asetoyer, C. (1987). Fetal alcohol syndrome: an international concern. Winds of Change, 2,(4), 29-30.

A description of the Native American Community Board's program entitled "Women and Children in Alcohol" is offered in this article. The NACB provides statistics on the extent of fetal alcohol syndrome (FAS) and fetal alcohol effects (FAE) in the Native American population, and their effect on the community. The devastating impact on the already overburdened special education system is discussed. Of particular interest is the impact that the customary late diagnosis of FAE has on both the student and the school.

Beauvais, F., Oetting, E. R. and Edwards, R. W. (1985). Trends in the use of inhalants among American Indian adolescents. White Cloud Journal, 3,(4), 3-11.

More than 10,000 rural Native American adolescents from over 30 different tribes who were attending school were surveyed to ascertain the prevalence of inhalant use for mood-altering purposes. The results indicate that around 40% of Native American youth have tried inhalants by the time they reach 18 years of age. The authors concluded that Native American adolescent inhalant use far exceeds that of non-Native American inhalant use in the categories of intensity, recency and lifetime prevalence.

Beauvais, F., Oetting, E. R., Wolf, W. and Edwards, R. W. (1989). American Indian youth and drugs, 1976-87: a continuing problem. American Journal of Public Health, 79,(5), 634-636.

Anonymous questionnaires were used to update data from previous articles on trends in drug use of Native American youth who live on reservations. After enjoying a decline in over-all drug use in previous years, the 1988 data suggests a rise in the use of most

substances. Alcohol use among Native American youth also appears to be increasing slightly.

Carpenter, R. A., Lyons, C. A. and Miller, W. R. (1985). Peer-managed self control program for prevention of alcohol abuse in American Indian high school students: a pilot evaluation study. The International Journal of the Addictions, 20,(2), 299-310.

30 adolescent Native American high school students who were perceived as having drinking problems participated in a peer-managed self-control program to teach responsible drinking. This study differed from most studies involving alcohol abuse among Native American adolescents in that the primary goal was to teach "controlled drinking" and not alcohol prevention, and therefore was a test of the *social learning etiology* of alcohol abuse rather than the traditional *disease model* of alcoholism. The majority of subjects in the study showed marked improvement in drinking habits in both the short term and after one year.

Fingerhut, L. A. and Makuc, D. M. (1992). Mortality among minority populations in the United States. American Journal of Public Health, 82,(8), 1168-1170.

This article discusses the death rates, ages and causes of death among Americans of Hispanic, Asian, Native American, Black and White origins. Native Americans have the second highest death rate between the ages of one and fourteen and the highest death rate between the ages of fifteen and twenty-four. The main causes of death of Native American youth are unintentional injuries and suicide. Many of the unintentional injuries are from alcohol-related traffic accidents. It is the authors' hope that showing the disparities in mortality as well as the causes of death will lead to the development of specific interventions to reduce the disparities.

Grossman, D. C, Milligan, B. C. and Deyo, R. A. (1991). Risk factors for suicide attempts among Navajo adolescents. American Journal of Public Health, 81,(7), 870-874.

The results of self-reported suicide attempts of Navajo adolescents were analyzed in an attempt to identify risk factors. The highest risk factors were found to be extreme alienation from family and community, history of mental problems, knowing someone who has attempted suicide, frequent use of hard liquor, physical and sexual abuse, gender (female) and a poor self-perception of health status.

Hall, R. L., Wilder, D., Bodenroeder, P. and Hess, M. (1990). Assessment of AIDS knowledge, attitudes, behaviors, and risk level of Northwestern American Indians. American Journal of Public Health, 80,(7), 875-877.

A questionnaire, made to assess knowledge, attitudes, behaviors and risk of infection from the HIV virus, was completed by 710 Native Americans from ages 12 to 78 years. The results indicate that twice as many members as in the general population are in the high risk group for contracting the virus. However, the group who completed the survey demonstrated a knowledge level similar to that of the general population.

Neligh, G. (1990). Mental health programs for American Indians: their logic, structure and function. American Indian and Alaska Native Mental Health Research, 3,(3), 11-259.

The author's purpose is to provide information about mental health problems and programs to professionals who work with Native Americans. Of particular interest to educators are the sections entitled *Disorders Specific to Childhood* and *Problems of Adolescence*. Detailed descriptions of mental health, learning and behavioral problems are analyzed from a Native American point of view.

Oetting, E. R., Beauvais, F. and Edwards, R. (1988). Alcohol and Indian Youth: Social and psychological correlates and prevention. The Journal of Drug Issues, 18,(1), 87-111.

The authors discuss the psychosocial factors that can have a positive affect on a young Native Americans' decision not to drink. The results of a questionnaire completed by over 1700 Native Americans under the age of 17 show some surprising results as well as some predictable results. The surprising results include the following: there is no difference in family economic status for alcohol-involved and non-involved Native youth, there are no significant differences in self-confidence or social acceptance for alcohol-involved and non-involved youth, and alcohol abusing youth feel less alienated than their non-drinking peers. The predictable results include the following: young Native American alcohol users drink to lessen the pain of negative emotional states, adolescent drug use is usually related to disrupted family structure, and young Native American alcohol users have higher levels of such deviant behaviors as lying and cheating. Special attention is paid to *peer cluster theory* and the need to break up deviant peer clusters who isolate themselves from influence by either adults or youth who espouse traditional societal values.

Schafer, J. R. and McIlwaine, B. D. (1992). Investigating child sexual abuse in the American Indian community. American Indian Quarterly, 16,(2), 157-167.

The authors, special agents for the Federal Bureau of Investigation in Flagstaff, AZ, are experienced in the field of investigating crimes on several reservations throughout the United States. This article was written to share some of the problems that

people who are not familiar with tribal cultures have when they suspect, report and investigate child sexual abuse. Although all Native American cultures have strong sanctions against sexual abuse of children, one must remember that all tribes are culturally distinct and the handling of such a problem by non-tribal members should be done with extreme caution. The reporting and investigating procedures that are appropriate for one culture may be inappropriate for another culture.

Schinke, S. P., Bebel, M. Y., Orlandi, M. A. and Botvin, G. J. (1988). Prevention strategies for vulnerable pupils. Urban Education, 22, (4),510-519.

The second part of this article dealt with drug abuse preventive intervention based on a bicultural competence model. Leader modeling and student practice methods were used to teach Native American students communication, coping and discrimination skills. The results indicated that the group who received the modeling and practice interventions were more highly skilled in turning down drug and alcohol offers from their peers than the control group who received no intervention.

Schinke, S. P. et al., (1985). Strategies for preventing substance abuse with American Indian youth. White Cloud Journal, 1985, 3,(4), 12-18.

This paper emphasizes culturally sensitive, scientific strategies for preventing substance abuse that are based on strengths that have served Native American people for thousands of years. Deciding what strategies to use starts with brainstorming sessions that include the ideas of local leaders. Native traditions, ceremonies and values are a central part of the design of the programs. The implementation of the program includes group homework assignments, field trips,

audio-visual aids, guest speakers and experiential exercises.

Schinke, S. P. et al., (1988). Preventing substance abuse among American Indian adolescents: a bicultural competence skills approach. Journal of Counseling Psychology, 35,(1), 87-90.

The bicultural competence skills approach, consisting of three subgoals, (1) communication skills, (2) coping skills and (3) discrimination skills, was taught to Native American adolescents for the purpose of helping to prevent substance abuse. The group who received the skills-based intervention showed greater posttest and follow-up improvements on measures of knowledge, attitudes and interactive abilities than the control group who did not receive the intervention.

Schinke, S. P. et al., (1985). Preventing substance abuse with American Indian youth. Social Casework, 66,(4), 213-217.

The article begins with several startling statistics that relate Native American substance abuse with a high incidence of social maladaptation, poor health and death. The authors then discuss many of the accepted explanations for the high incidence of substance abuse among Native Americans, point out the merits of several prevention methods and conclude by declaring that substance abuse prevention programs are cheaper and more effective than substance abuse treatment programs.

Takie, Y., Lynch, P. and Charleston, G. M. (1988). To drink or not to drink: the Indian adolescents' choice between friends and family. Journal of American Indian Education, 27,(2), 1-9.

Interviews were conducted with 275 Native American children, adolescents and adults on the topic of social and family pressures that influence the adolescent's decision whether or not to drink. The

influences that promote drinking include peer pressure, lack of affectionate parent-child ties, lack of parent praise, parent modeling and older sibling modeling.

Thurman, P. J., Martin, D. and Martin, M. (1985). An assessment of attempted suicides among adolescent Cherokee Indians. Journal of Multicultural Counseling and Development, 13,(4), 176-182.

A questionnaire was developed and given to nurses and counselors at a BIA hospital in Tahlequah, Oklahoma, the capital of the Cherokee Nation. The questionnaire was designed to examine both the rate and reasons for suicidal attempts among adolescent Cherokee Indians. The rate was not accurately reported because many suicide attempts are not documented. The reasons given for suicide attempts are generally the same as those given by the non-Native population. It was mentioned, however, that the suicide rate among Native American adolescents is higher than the suicide rate of the general population, and that increasing the Native American's adaptability to the non-Native environment would be a determining factor in lowering the incidence of suicide for Native American adolescents.

Wescott, S. M. (1990). Time to address a preventable tragedy. Winds of Change, 5,(3), 30-34.

This article discusses the topic of pregnant women who drink, the cultural pressures felt by them to drink in order to be a part of their society, the magnified effects that most European diseases have had on Native Americans throughout history and the economic impact of a single FAS baby on the government budget. The article also discusses strategies for prevention of FAS, including the possibility of forced treatment for pregnant women who drink.

Zitzow, D. (1990). Ojibway adolescent time spent with parents/elders as related to delinquency and court adjudication experiences. American Indian and Alaska Native Mental Health Research, 4,(1), 53-63.

This study examined the issue of adolescent quality and quantity of time spent with parents or elders, and its relationship to skipping school, running away and violating the law. A survey was used along with public court records to conclude that adolescent Ojibways who spent less time with their parents and elder family members tended to be more involved in court adjudication and delinquency behaviors than adolescents who spend considerable time with parents and elders. The author offered six skill developing suggestions for professionals who work with troubled Native American youth, and a list of five suggestions for reservation leaders whose goal is to minimize adolescent problem behaviors.

Learning Handicaps

Beare, P. L. (1986). Programming for behaviorally disordered Native Americans. Journal of American Indian Education, 25,(2), 24-31.

Fourteen Native American high school students with academic and behavior problems were selected to participate in a treatment program designed to improve their academic performance, attendance and tardiness. The treatment program, known as Goal Attainment Scaling (GAS), stresses the setting of realistic expectations, monitoring of progress and recognition for student improvement. Thirteen of the fourteen students showed a significant decrease in the number of failing grades and eleven of the fourteen showed decreases in the number of tardies. The group attendance record improved slightly.

Cummins, J. (1991). Preventing pedagogically-induced learning difficulties among Indigenous students. Journal of Navajo Education, 8,(3), 3-9.

The author explains the ways that Native American children's academic potential can be undermined by the school experiences that have the affect of robbing them of their identities. It is stressed that one must often examine the interaction between school and the child when looking for the reason for learning problems, rather than searching within the child for the cause. Abusive boarding school experiences, lack of promotion of native language literacy, poverty and a faulty attribution process are specifically cited as being major causal factors for academic failure. Cummins' Framework for Intervention for the Empowerment of Minority Students is offered as an aid in solving this problem.

Dodd, J. M. and Nelson, J. R. (1989). Learning disabled adults: implications for tribal colleges. Journal of American Indian Education, 28,(3), 31-38.

Learning disabled Native American high school graduates who aspire to attend institutions of higher education have a twofold problem: (1) overcoming their disability and (2) adjustment to the different cultural environment of the predominantly White traditional higher education settings. Tribal colleges such as the Navajo Community College provide the opportunity for LD students to begin their higher education program without having to adjust to an unfamiliar cultural environment. The article also suggests twelve accommodations that teachers should consider for learning disabled students. These accommodations are also suitable for LD students of all ages.

Harris, G. A. (1985). Considerations in assessing English language performance of Native American children. Topics in Language Disorders, 5,(4), 42-52.

This article explains, in detail, the reasons for the low verbal IQ test scores of Native American children on measures such as the WISC-R, and the problems that can result from the improper interpretations of the results. Some of the reasons for the typical performance characteristics include test bias, culturally determined child-rearing practices, bilingualism and the use of non-standard English dialects, possible hearing loss due to otitis media, Native American cultural emphasis on performance rather than verbal skills, unfamiliar assessment environment and inadequate test interpretation with respect to local customs. The article concludes with a number of suggestions that professionals can take into account when assessing Native Americans and interpreting results of the assessments.

Horan, K. T. (1986). Effects of head injury on the educational and vocational potential of American Indians. Rural Special Education Quarterly, 8 (1),19-22.

This article describes the nature of the increased risk of head injury that Native Americans who live on the reservation face. These hidden dangers include riding in the back of a pick-up trucks, livestock accidents, rodeo accidents, alcohol-related traffic accidents and the distance one must drive to obtain emergency medical care. A description of learning handicaps commonly experienced by head injury patients is offered, and alternative teaching methods are also discussed.

Lankford, R. and Riley, J. D. (1986). Native American reading disability. Journal of American Indian Education, 25,(3), 1-11.

The author discusses the Language Experience Approach, a strategy for teaching reading to Native American children that will satisfy both the need to learn to read and the need for culture to be an integral part of the learning process. Currently there exists a gap between the beliefs of the cultural specialists and the education specialists on teaching strategies. The Language Experience Approach could bridge that gap.

Scaldwell, W. A. (1989). Effect of otitis media upon reading scores of Indian children in Ontario. Journal of American Indian Education, 28,(2), 32-39.

Otitis media has long been expected as a cause of speech and language problems in children. This study attempted to find a link between otitis media and reading skills of Native American children in Ontario. The results indicated that the children who were presently suffering with otitis media present lower on the Gates-MacGinite Reading Tests than children with normal hearing, and the children with

past signs of infection scored lowest of the three groups. The results also suggest that the younger the age of onset, the lower the reading score of the inflicted child.

Scaldwell, W. A. and Frame, J. E. (1985). Prevalence of otitis media in Cree and Ojibway school-children in six Ontario communities. Journal of American Indian Education, 25,(1), 1-5.

Otitis media (middle ear infection) is prevalent in Native American children and presents a major threat to normal language development. Over 700 Native American children in Ontario were screened by a registered audiologist for presence of active otitis media or for evidence of past infection, and 40.7% showed signs of having had the infection. The high rate of infection may offer an explanation as to why many Native American children do not respond well to the phonetic method of teaching reading.

Thielke, H. M. and Shriberg, L. D. (1990). Effects of recurrent otitis media on language, speech, and educational achievement in Menominee Indian Children. Journal of American Indian Education, 29,(2), 25-35.

Several measures were administered to Menominee children to assess the effects of otitis media on language, speech and educational success. The results showed significantly higher scores on most measures for subjects who had no signs of the infection at any time in their lives, and trends toward higher scores on the remaining measures. A follow-up study of grade placements and support services indicated that the subjects who had showed signs of otitis media experienced more grade retention and much higher use of support services.

Gifted

Christensen, R. A. (1991). A personal perspective on tribal Alaska Native gifted and talented education. Journal of American Indian Education, 31,(1), 10-14.

The author argued that the term "giftedness" for purposes of educational placement has always been defined within the world view of the White person. For this reason the Native American is usually underrepresented in programs for the gifted and talented. When speaking of Native Americans, the definition of gifted and talented must take a cultural stance and agree with tribal definitions. Because of such cultural dissimilarities as a different sense of time, space and world view, the traditional White definition does not apply to the gifted Native American student.

Hartley, E. A. (1991). Through Navajo eyes: examining differences in giftedness. Journal of American Indian Education, 31,(1), 53-64.

Surveys and interviews were conducted with Navajo and Anglo parents, and school personnel on the question of what is giftedness. The traditional Navajo description of giftedness was quite different from that of the Anglo description. For example, a gifted child in the traditional Navajo sense shows the following characteristics (which are the *opposite* of the Anglo description): (a) humble and not boastful, (b) oral memory rather than a visual memory, (c) quiet, (d) non-competitive with peers, (e) traditional rather than modern ways of dealing with personal issues, (f) not assertive or opinionated, (g) may not openly express feelings, (h) may submit to peer pressure, (i) little eye contact, (j) may not challenge something that is incorrect, (k) may not be comfortable working independently, (l) not inquisitive.

LaBatte, J. (1991). Nurturing creative/artistic giftedness in American Indian students. Journal of American Indian Education, 31,(1), 28-32.

This article summarizes the opinions of several prominent educators on the subject of identifying and developing creative/artistic giftedness in Native American students. All six educators believe that the approach currently used by the United States Government in identifying Native American gifted students is seriously flawed. In addition, the educators offer several interesting and innovative ideas for program development.

Robbins, R. (1991). American Indian gifted and talented students: their problems and proposed solutions. Journal of American Indian Education, 31,(1), 15-24.

This article contains the author's observations of 125 gifted and talented Native American secondary students who were participating in a gifted education program in Oklahoma. The author identifies many problems routinely confronted by gifted Native American students in the American education system, and offers a number of solutions to these problems.

Shutiva, C. L. (1991). Creativity differences between reservation and urban American Indians. Journal of American Indian Education, 31,(1), 33-52.

The Torrance Test of Creative Thinking, Figural Form B (TTCT-F,B) was administered to 28 urban and 122 reservation Native American eleventh grade students to compare creativity scores and academic achievement. The results indicated that the urban students scored higher in the areas of originality, abstractness of title, resistance to closure and creativity index scores. There was no significant difference between the reservation students and the urban students in academic achievement as measured by their grade point averages.

Tonemah, S. (1987). Assessing American Indian gifted and talented students' abilities. Journal for the Education of the Gifted, 10,(3), 181-194.

The American Indian Research and Development, Inc. (AIRD), in an effort to find and train capable future tribal leaders, has begun to develop a tribally-oriented program to assess and educate its gifted and talented youth in a way that would maximize their abilities and meet the future needs of tribal people. In order to reach their goals, the AIRD has developed a tribal-cultural checklist to help in assessing the students' understanding of tribal culture, abilities and giftedness from the point of view of adult tribal members. The contents of the checklist differs significantly from the contents of the Anglo definition of giftedness. The long range goal of the AIRD is the making of an American Indian Gifted and Talented Academy.

Tonemah, S. A. (1991). Philosophical perspectives of gifted and talented American Indian Education. Journal of American Indian Education, 31,(1), 3-9.

The article historically reviewed the philosophy of Native American education before the event of the European discovery, and the devastating impact the European arrival had on the education of tribal members following their discovery. The American Indian Research and Development, Inc. (AIRD), is designing a program to educate gifted and talented Native American students in a way that will benefit the tribes and break from recent history. Included in the program are the development of an individual education plan that takes into account student interests and preferred learning style (Renzulli's Enrichment Triad Model), non-competitive learning activities, use of Native American instructors and a wholistic approach to teaching.

Program/Personnel Training

Baca, L. and Miramontes, O. (1985). Bilingual special education teacher training for American Indians. Journal of American Indian Education, 24,(2), 38-47.

This paper discusses (1) bilingual special education teacher training in general and (2) field-based Native American teacher training programs. The Navajo Special Education Teacher Development Program (NSETDP) is described in detail. The NSETDP Master's degree program offers classes in Window Rock during the school year and classes on campus at Northern Arizona University during the summer. The NSETDP is designed to reach teachers who live in rural areas and therefore cannot commute to major metropolitan areas during the school year.

Bissmeyer, R. D. (1991). Renewed vision for special education: Kayenta's model of inclusion. Journal of Navajo Education, 8,(3), 28-32.

The special education staff of Kayenta Unified School District, located on the Navajo Reservation in Arizona, expressed concern that the stigma of the traditional pull-out resource room experience was devastating to special education students. In addition, the students' educational needs were not being met and many students would progress at unsatisfactory rates. Kayenta's inclusion program, designed to remedy the aforementioned problems, is described in detail. Regular education and special education are taught in the same classroom, using a cadre-team approach. Eleven key elements of the inclusion model are listed and discussed.

Bluhm, H. P., Finley, R. E., Lodge, N and White, K. (1991). Training Native Americans as school counselors to work with handicapped children of their own race. Journal of Navajo Education, 8,(3), 41-47.

A detailed description of a counselor training program at the

University of Utah is offered to Native American counselors who wish to handle consulting, psychological and behavioral problems of Native American special education students. It is the belief of the authors that Native American counselors could be more effective than the non-Native counselors who lack the knowledge necessary to fully understand the point of view of Native American special education students. Procedures for applying for graduate personnel preparation programs that provide on-site training are described in detail.

Foster, C. G. (1986). Project SERT: special education training for regular educators of Native Americans. Rural Special Education Quarterly, 8,(1), 23-25.

A special education office on the Navajo Reservation surveyed regular education teachers on the topic of teaching special education students, and found that the teachers felt inadequately prepared for the task. Acting on the results of the survey, the University of Arizona designed and implemented project SERT, a training program located on the Navajo Reservation. The project was considered to be a success, as measured by a post-training questionnaire completed by the participating teachers.

Foster, C. G. (1988). Special education program for Native American exceptional students and regular program staff. Rural Special Education Quarterly, 8,(3), 40-43.

The regular education teachers on the Navajo Reservation in Tuba City expressed concern for their inability to adequately meet the needs of mainstreamed special education students. As a result, the Tuba City Boarding School initiated the Summer Special Education Program. This program had two purposes: (1) to provide special education training for regular education teachers and (2) to provide supplemental special education instruction for special education

students. By the end of the summer, teachers and aids reported that they were comfortable with special education procedures as well as with the presence of mainstreamed exceptional students in their regular education classrooms.

Gajar, A. (1985). American Indian personnel preparation in special education: needs, program components, programs. Journal of American Indian Education, 24,(2), 7-15.

This article describes the need for an increase in trained special education personnel to work with handicapped Native American students. The American Indian Special Education Teacher Training Program at the Pennsylvania State University is described in detail. The objectives of the program are (1) to provide program participants with the necessary training to meet the special needs of handicapped Native American students, (2) to prepare Native American educators at the Master of Education level and (3) to identify successful and relevant strategies in preparing Native American special education leaders and personnel.

Kiefer-O'Donnell, R. (1991). Redefining the role of special education: achieving participation and success in one's community and culture. Journal of Navajo Education, 8,(3), 23-27.

A description of the unique role that a rural Native American community plays in the delivery of special education services to students with moderate to severe disabilities is offered. With the common goal to emphasize participation and success within one's own community and culture, the I.E.P. committee includes tasks such as helping to pass out Sunday bulletins at the church, learning beadwork and skin-sewing from a peer tutor, participating in native dances outside of the school, janitorial skills in the school and working part time in the post office. The participating students have

improved their social standing in the community, increased their peer interactions and learned valuable skills that will help them to survive in their culture. Five features that are common to most successful home-community-school partnerships are also presented.

Latham, G. I. (1989). Thirteen most common needs of American education in BIA schools. Journal of American Indian Education, 29,(1), 1-11.

This study was conducted in order to ascertain the most common instructional and management-type needs of BIA schools. From interviews and direct observations, needs related to special education were determined to be as follows: the need to more precisely define learning disabilities, to improve cooperation and coordination between regular and special education, to establish functional relationships between student Individual Education Plans (IEP) and classroom instruction, and to improve parental involvement in the schools.

Latham, G., West, R. and Collins, S. C. (1985). Prescriptive behavioral intervention at the dorm level. Journal of American Indian Education, 24,(2), 25-37.

A behavioral intervention study was undertaken at a high school dorm for girls in an attempt to improve their conduct during non-school hours while they were living at the dorm. The two paraprofessionals, specially trained in behavior techniques, identified problem behaviors of their six subjects, set goals and gave rewards for meeting the goals. The problem behaviors included consumption of alcohol and drugs, curfew violations, keeping a dirty room and cutting classes. The project demonstrated that the application of behavioral strategies can have positive effects on adolescents living in a dormitory, even if the intervention is managed by paraprofessionals.

Sebastian, J. (1991). How do we keep them out in the field? Preparing special educators in rural school districts. Journal of Navajo Education, 8(2), 24-26.

An effective model distance education program for training rural special education teachers is described. The University of Utah recruits local members of rural communities who wish to become special education teachers, and provides them with trained master teachers as well as with televised courses that are video taped at the university. These courses are then presented locally, thereby facilitating the training of rural community members who live hundreds of miles from the nearest university. The program has continued to grow since its inception in the early 1980's, and has successfully prepared over 80 special education teachers. Over eighty percent of the teachers who have completed the distance education program remain in their local communities teaching students with handicaps. The high success rate provides considerable help for school superintendents who find it a difficult if not impossible task to recruit special education teachers in isolated rural communities.

Stuecher, U., Grossman, E., Hakala, N. and Kozlowski, G. (1985). Training project for Indian school liaison and support personnel in special education. Journal of American Indian Education, 24,(1), 9-19.

A training program for Native American paraprofessional liaison and support personnel was administered to 55 people, mostly women, to work with Native children and parents in public schools and residential programs. The liaisons' primary function was to act as a bridge between the school and the home in order to improve communication. Data from formal advocacy contact reports indicated that the trained paraprofessionals performed their duties very well, especially in the area of professional communication abilities.

Culture/Language

Bowker, A. (1992). The American Indian female dropout. Journal of American Indian Education, 31,(3), 3-20.

The purpose of this study was (1) to find the contributing factors to the success of Native American females who stay in school and graduate, and (2) to determine the contributing factors to the lack of success of Native American females who drop out of school. It was also the intention of the author to develop a research project that could augment or replace the current practices in Native American education. Approximately 51% of the Native American females who participated in the study dropped out because of pregnancy. Apart from this statistic, no one characteristic could describe the women who dropped out. Many women from so-called high risk groups achieved considerable academic success, and many women who were from the so-called low risk group dropped out. Of the girls who succeeded in school, the main factor was the support of their families, especially their mothers and grandmothers. Those who achieved success pointed to home environments with rules and restrictions as well as good parental role models. The article also contains excerpts from the book, *Sisters in the Blood*, which was scheduled for release in May, 1992.

Brandt, E. A. (1992). The Navajo area student dropout study: findings and implications. Journal of American Indian Education, 31,(2), 48-63.

Data collected from a school characteristic survey questionnaire and an analysis of enrollment data from schools on and near the Navajo Reservation were used to study the nature of and major reasons for the Navajo student dropout problem. Major contributing factors to the dropout problem include a history of high dropout rate in BIA schools,

boredom with school, transportation problems, pervasive institutionalized racism and lack of encouragement in the home. Academic problems do not seem to be a primary reason for dropping out.

Cantrall, B., Peete, L. and Fields, M. (1990). Navajo culture as a bridge to the rest of the world: a case study in empowerment. Journal of Navajo Education, 8,(1), 6-13.

A description of a successful attempt to weave the Native American culture into the regular school curriculum in a school on the Navajo Reservation is offered in this article. Thanks to site-based management, a caring school staff and a cooperative community, the Greasewood School was able to do away with such inappropriate practices as required CTBS testing and supplementary Native American curriculum, and replace it with bilingual/bicultural education, the whole language approach to language development, Navajo culture, as well as traditional Navajo folk tales and ceremonies. The authors, who are members of the school staff, have multiple goals for their school: the teaching of facts, the teaching of processes and the teaching of self-worth.

Cunningham, K., Cunningham, K. and O'Connell, J. C. (1986). Impact of differing cultural perceptions on special education service delivery. Rural Special Education Quarterly, 8,(1), 2-8.

Recognizing that education delivery systems have failed because of a lack of sensitivity to traditional cultural values and beliefs, the author has promoted the family systems approach for delivering special education services to handicapped Native American students. A distinction is drawn between Anglo and Native American views of family, school, success and the cultural perceptions that influence special education. Strategies for studying the different cultural

perceptions are discussed.

Eberhard, D. R. (1989). American Indian education: a study of dropouts, 1980-1987. Journal of American Indian Education, 29,(1), 32-40.

Urban secondary Native American dropout characteristics was the focus of this study. Parent and pupil group interviews, along with an urban district's dropout statistics were used to examine six possible contributing factors to the dropout rate. Contributing to the dropout rate were a poor academic record, single parent families, high rate of family mobility, attendance in schools with poor graduation rates and affiliation with specific tribes.

Erasmus, C. C. (1989). Ways with stories: listening to the stories Aboriginal people tell. Language Arts, 66,(3), 267-275.

The author studied styles of discourse of a number of Native American peoples and discussed the mismatch between these styles and what is expected in the typical North American classroom. For example, at times it is improper for a Native American public speaker to arrive at a conclusion about a topic, whereas an Anglo public speaker is expected to lead the listeners toward a decision. It was suggested that many Native American students have difficulties in school because their teachers do not understand the difference in discourse styles.

Leap, W. L. (1991). American Indian English. Journal of Navajo Education, 8,(3), 50-55.

The author states that the development of English language instructional methods and materials designed for Native Americans should take into account the type and level of English that the student brings into the classroom. In addition, the use of

non-standard English must be respected, as it is a necessary form of communication in Native American homes and communities. Many Native American students speak non-standard English, and classroom English is often difficult for them. Speech patterns from the various languages should be understood, or at least taken into account by teachers who develop curriculum. These efforts must be coordinated accross grade levels, mainstreaming and special education, and district boundaries.

Ledlow, S. (1992). Is cultural discontinuity an adequate explanation for dropping out? Journal of American Indian Education, 31,(3), 21-36.

This article reviews recent literature on the reasons for the high incidence of dropping out among Native American students. The majority of the research focuses on the area of cultural discontinuity between the school and home cultures. The author then suggests that such factors as economics, long distance commutes to school, pregnancy, and social structure may be more significant in the Native American student's decision to drop out than language and cultural differences. The author urges that further research into the problem of Native American dropouts devote equal attention to variables outside of the school.

Little Soldier, L. (1989). Sociocultural context and language learning of Native American pupils. Journal of Rural and Small Schools, 3,(2), 2-6.

The author believes that there are many cultural and linguistic barriers between the home and school environments that contribute to the poor academic record of Native Americans. In an effort to bring down some of those barriers, this study was conducted to determine the optimum classroom language learning environment for Native American students. Classrooms were observed and rated based on the students'

opportunities to use oral and written language in a variety of settings. The optimum classroom learning environment was found to be informally organized, where students as well as teachers shared the locus of control, where there was evidence of cooperative learning and informal dialog patterns, and where students were given the opportunity to speak and write about culturally relevant topics.

Martin, Jr., W. E. (1991). Career development and American Indians living on reservations: cross-cultural factors to consider. The Career Development Quarterly, 39,(3), 273-283.

The author discussed factors that may affect the career development process of Native American students and adults, both disabled and non-disabled. The factors that must be considered when advising on vocational issues include the following: Native American custom of passing a vocation from generation to generation within a family, geographical isolation of the reservation, lack of culture-fair assessment, lack of familiarity with the nature of various occupations (world of work knowledge) and many pressures that are hard for non-Natives to understand. Special attention must be paid to the added pressures on, and restricted labor market of Native Americans with disabilities.

McCarty, T. L. (1989). School as community: the Rough Rock demonstration. Harvard Educational Review, 59,(4), 484-503.

The author discusses the historical significance of the Rough Rock Demonstration School, the sociopolitical events that lead to its creation, the impact of the school on the community and the potential impact on Native American schools throughout the country. The Rough Rock Demonstration School is the first school on the reservation to be overseen by a locally elected, all-Native American governing board,

and the first to include systematic instruction in the native language and culture.

McCarty, T. L., Wallace, S. and Lynch, R. H. (1989). Inquiry-based curriculum development in a Navajo school. Educational Leadership, 46,(5), 66-71.

This article reported on the development of a bilingual, bicultural, inquiry-based curriculum at the innovative Rough Rock Demonstration School on the Navajo Reservation. The Rough Rock Demonstration School is unique in that the local community has taken control of the curriculum and integrated Navajo language and social studies with conventional courses of study. The Rough Rock Demonstration School can serve as a model for other schools on reservations throughout the country because of its local control of school policy and the multicultural orientation of its curriculum.

McLaughlin, D. (1989). Power and politics of knowledge: transformative leadership and curriculum development for minority language learners. Peabody Journal of Education, 66,(3), 41-60.

The author examines how the community leaders' understanding of power plays a central role in the development of program and curriculum, and cites a community-controlled school on the Navajo Reservation as an example of effective understanding and use of power and politics. Effective use of political power can "build a bridge" between Native American students' home culture and the school environment.

O'Neill, G. P. (1987). The North American Indian in contemporary history and social studies textbooks. Journal of American Indian Education, 26,(3), 22-28.

An examination of ongoing status of the Native American in contemporary American and Canadian textbooks was attempted to

ascertain whether or not there have been improvements in the nature of their depiction. Past depictions include the stereotypes of alcoholic, blood-thirsty, hostile savages. Findings showed some improvement in the use of degrading, biased language, but little change has been found in the actual content of the textbooks. These inaccurate depictions contribute to the isolation and poor self-concept felt by Native American students.

Oppelt, N. T. (1989). Cultural values and behaviors common among Tribal American Indians: a resource for student service administrators. NASPA Journal, 26,(3), 167-174.

In an effort to improve the school experiences of Native Americans, the author listed and described many common cultural differences between Native Americans and Anglos, hoping that school personnel would take these differences into consideration when designing and presenting curriculum. Some of these differences include time perspective, sharing of wealth, cooperation and group membership, concern for family, spiritual needs, attribution and group dynamics.

Sawyer, D. (1988). The writing process and Native students. Canadian Journal of Native Education, 15,(2), 15-21.

The author reviewed literature on the subjects of (1) identification of factors that impede Native American students' writing process, and (2) examples and models that have been used to facilitate the success of Native American students' attempts at writing. Among the main impediments to writing are a feeling that one cannot shape his or her social reality, and a lack of trust and understanding of English. Many useful suggestions for stimulating the writing process are offered.

Scott, W. J. (1986). Attachment to Indian culture and the "difficult situation". Youth and Society, 17,(4) 381-395.

Data on 101 Native American students in Oklahoma was compiled and analyzed to look for predictors of academic success in high school and college. The findings indicate that students who hold close cultural ties to their Native American heritage are more likely to fail because of lack of ability to integrate into the school community. The Native students who are less attached to Native culture have a higher chance of success in school. In order to improve their chances of academic success, the author stresses the need for Native American students to master White ways on their own terms and still be able to maintain commitment to Native values and traditions.

Shonerd, H. G. (1990). Domesticating the barbarous tongue: language policy for the Navajo in historical perspective. Language Problems and Language Planning, 14,(3), 193-208.

The author traces the history of the Spanish and Anglo attempts to suppress and replace the Navajo language with European languages for reasons of religious ideology. The result of these efforts is evident in the widespread *semilingualism*, the lack of proficiency in both English and Navajo. Lack of understanding of semilingualism on the part of educators is responsible for high rates of Navajo placement in classes for the communication disordered. It is recommended that schools demonstrate respect for Navajo students' spoken language so that students will develop the ability to affirm their cultural identities, and that Navajo community members actively participate in educational policy making regarding language development in their classrooms.

Vogel, V. J. (1987). The blackout of Native American cultural achievements. American Indian Quarterly, 11,(1), 11-35.

European historians have overlooked and denied many Native American cultural achievements for centuries, even in the face of overwhelming evidence of their existence. This paper examined these denials in only three areas: medicine, the manufacture of maple sugar and the use of fertilizer, and found abundant early literature to support these Native American achievements. Recognition of these and other historical accomplishments, and therefore the respect for Native cultures and Native people, is long overdue.

Cognitive Style

Brown, D. B. (1990). Learning styles and Native Americans. Canadian Journal of Native Education, 17,(1), 23-35.

The author selected a few researchers' descriptions of learning styles and cognitive styles that seemed to be particularly useful to teachers, and elaborated on the model she called hemisphericity. The author pointed out that left hemisphere learners were better achievers in school, and that most Native Americans were right hemisphere learners. Many suggestions for curriculum modifications were offered, as were her ten criteria for a reading program that would allow right hemisphere learners a chance to succeed at learning to read.

Chrisjohn, R. D. and Peters, M. (1986). The right-brained Indian: fact or fiction? Journal of American Indian Education, 25,(2), 81-87.

The authors expressed concern over the possible effects of the growing amount of research concluding that Native Americans are right hemisphere learners. Much evidence of an "anatomical" nature is often manipulated in order to prove the superiority of the Anglo over ethnic minorities. In addition, the authors point out that damage in the area of education of Native Americans could result when educational strategies are linked with left- or right-brain learning. Such attitudes as, "why bother to teach Native American children things they are not capable of learning?" may result from right-brain curriculum design.

Diessner, R. and Walker, J. L. (1986). A cognitive pattern of the Yakima Indian students. Journal of American Indian Education, 25,(2), 39-43.

Using Bannatyne's recategorized WISC-R and WAIS scores, the authors attempted to examine whether Yakima students, whose primary

language is English, exhibited the same cognitive learning styles as other Native American students. The same pattern was found (spatial ability higher than sequential ability, sequential ability higher than verbal ability). The authors speculated that a possible cause for this pattern could be that spatial processing (right brain) may interfere with left brain hemisphere processing, resulting in decreased linguistic processing. Another possible cause that was mentioned was the high incidence of otitis media which contributes to deficits in linguistic processing.

Foreman, K. (1991). Native teaching and learning/dramatic teaching and learning. Youth Theatre Journal, 5,(3), 16-20.

The teaching methods used in educational drama classes were analyzed for their compatibility with the learning styles that researchers have identified as being favored by Native American students. The dramatic teaching methods that are commonly used and thought to be compatible with Native learning styles are as follows: watch-then-do, think-then-do, using a holistic approach to get the "big picture" in order to provide context for a particular scene, small group (collective creation) interaction, visual-spatial methods to create imaginary situations as well as other forms of non-verbal communication strengths, the use of stories to convey meaning, and tactile stimulation.

Haukoos, G. D. and Satterfield, R. (1986). Learning styles of minority students (Native Americans) and their application in developing a culturally sensitive science classroom. Community/Junior College Quarterly, 10,(3), 193-201.

This study of Native American entry level college biology students was conducted in order to learn more about their learning styles and to recommend changes in teaching strategies based on the

results of the study. The Learning Styles Inventory, Form C (LSI) was administered on the first day of biology class to a group of Native American biology students as well as to a group of non-Native students. The results indicated that there are four significant differences in learning style characteristics. From the results, the teacher implemented several changes into the course to accommodate the Native Americans' exhibited skills. A very high course success rate and completion rate was noted by the authors.

Henry, S. L. and Pepper, F. C. (1990). Cognitive, social and cultural effects on Indian learning style: classroom implications. The Journal of Educational Issues of Language Minority Students, 7, 85-97.

Learning style is examined using three dimensions: (1) thinking and reasoning, (2) social effects and (3) the biological elements involving physiology, nutrition, health and sex-related differences. The effects of home culture, child rearing practices and cultural incongruities on learning style are also discussed. Various teaching strategies designed to support the Native American student are offered.

Macias, C. J. (1989). American Indian academic success: the role of indigenous learning strategies. Journal of American Indian Education, special issue, 29, 43-52.

Interviews were conducted with eleven successful Native American female graduate school students in order to discover what strategies they had developed on their way to experiencing such academic success. The women identified many common difficulties as well as coping strategies to overcome these difficulties. Some of these strategies were: keeping with a systematic study schedule, use of multimodal learning styles such as combining reading with writing, reading aloud,

including physical movement in their studying, and visualization techniques.

Moore, A. J. (1987). Native Indian students and their learning styles: research results and classroom applications. B. C. Journal of Special Education, 11,(1), 23-37.

The author examines literature on learning styles under the four headings of (1) internal processes (global/analytic, imagery/verbal, impulsive/reflective, trial-and-error/watch-then-do, field dependence-independence, concrete/abstract), (2) external conditions, (3) teaching and communication styles, and (4) traditional learning styles. Problems in research, caused by a lack of uniformity for the term "learning style", are also discussed. The paper discusses a number of possible classroom suggestions for the implementation of Native learning styles.

More, A. J. (1987). Native Indian learning styles: a review for researchers and teachers. Journal of American Indian Education, 27,(1), 17-29.

Research on learning styles was summarized and presented under the headings of internal cognitive process, external conditions, teaching and communication styles and traditional learning styles. Some strengths that are frequently mentioned in literature include global processing, simultaneous processing, visual/spatial processing, using imagery for coding rather than verbal coding, and reflective learning (learn by watching) rather than impulsive learning (trial-and-error).

Osborne, B. (1985). Research into Native North Americans' cognition: 1973-1982. Journal of American Indian Education, 24,(3), 9-25.

This paper reviewed ten years of journal articles on the topic of Native Americans' cognition and grouped them under five headings: (1)

visual perception and cognitive style, (2) perception of self, time, information needs and the world, (3) Piagetian tasks, (4) reading and bilingual education and (5) cognitive strengths. The groupings were then evaluated against J. S. Kleinfeld's findings in her studies on cognitive styles of Inuits. Given the many weaknesses of the studies reviewed, the author declared that it is very difficult to draw conclusions on Native Americans' cognitive styles.

Pepper, F. C. and Henry, S. L. (1986). Social and cultural effects on Indian learning style: classroom applications. Canadian Journal of Native Education, 13,(1), 54-61.

The author examined the child's outer environment and its effects on learning style. The outer environment, as described, consisted of family atmosphere, family constellation (the relationship of family members to one another) and child-rearing/discipline practices. The author believes that learning styles evolve naturally from the outer environment. The paper concludes with a list of classroom implications that take into account learning style, and a reminder that stereotyping a child's learning style may contribute to an inferior education. One damaging example of an inferior strategy would be not teaching verbal skills to a Native child because his/her learning style is non-verbal.

Rhodes, R. W. (1988). Holistic teaching/learning for Native American students. Journal of American Indian Education, 27,(2), 21-29.

In the search for reasons for the lack of success of Native Americans in Anglo-style school situations, the author has attempted to show that there is probably a difference in observational and thinking processes for Native Americans raised on a reservation than for Native Americans and non-Native Americans who are not raised on a

reservation. Teachers can therefore develop appropriate classroom activities by utilizing haptic, holistic and right brained learning styles that are favored by Native Americans.

Rhodes, R. W. (1990). Measurements of Navajo and Hopi brain dominance and learning styles. Journal of American Indian Education, 29,(3), 29-40.

Using Navajo and Hopi students, teachers, and non-teaching adults as subjects, a brain hemispheric dominance and learning style preference study was performed. The *Hemispheric Mode Indicator* and the *Learning Style Inventory* were administered. The results indicated significant differences from national norms for all Navajo and Hopi subgroups, and imply a mismatch between the teaching style found in most schools and the learning styles of most Navajo and Hopi students.

Sawyer, D. (1991). Native learning styles: shorthand for instructional adaptations? Canadian Journal of Native Education, 18,(1), 99-105.

The author reviewed literature on the topic of Native learning styles and presented the view that many studies on the topic go beyond the definition of learning styles and are therefore vague and ambiguous. Many orientations to learning can be attributable to such causes as child rearing practices and the culturally-based "interference theory" (classrooms are not structured to allow Native students to display competence). Conclusions from many studies are based on small samples, and some patterns are preferred by just over half of the sample. However, such studies have value in that they might suggest alternative ideas that can be used to increase teacher sensitivity in specific situations.

Shade, B. J. (1989). The influence of perceptual development on cognitive style: cross ethnic comparisons. Early Child Development and Care, 51, 137-155.

This paper examined the perceptual patterns of Native Americans and Afro-Americans to determine how their perceptual development influences the way they process information. Such topics as person vs. object orientation, modality preferences, field dependence-independence and visual cues are discussed. The paper concluded by including cognitive style profiles for the two groups.

Stellern, J., Collins, J., Gutierrez, B. and Patterson, E. (1986). Hemispheric dominance of Native American Indian students. Journal of American Indian Education, 25,(2), 8-17.

Dual-task experiments (finger tapping concurrently with a number of reading and spatial problem solving tasks) were used to examine the language and spatial lateralization of 49 Native American students in the fourth, fifth and sixth grades. The results indicated that the subjects in this study have language lateralization to the left hemisphere, and some also have the spatial function to the left hemisphere. The author summarized that the Native American students in this study are not right hemisphere dominant and therefore do not need right-minded teaching techniques.

Swisher, K. (1990). Cooperative learning and the education of American Indian/Alaskan Native students: a review of the literature and suggestions for implementation. Journal of American Indian Education, 29,(2), 36-43.

The author reviewed and summarized the findings of several researchers on the subject of Native American students and competition or cooperation in the classroom. In general, competition in the "team" sense has been used successfully in Native American classrooms. However, the type of competition in which recognition of the "winner" implies a negative attitude toward the "loser" is not acceptable, as

Native American children are not willing to be singled out or "spotlighted" in this way. Several team learning techniques that have been extensively researched and found to significantly increase learning are described in this article.

Swisher, K. and Deyhle, D. (1987). Styles of learning and learning of styles: educational conflicts for American Indian/Alaskan Native youth. Journal of Multilingual and Multicultural Development, 8(4), 345-360.

This article reviews literature on Native Americans and cognitive style in three different categories: learning style, interactional style and teaching style. The learning style category includes topics such as spatial/visual ability, observation and field dependence/independence. The interactional style category includes topics such as cooperative vs. competitive situations, classroom organization and the demonstration of knowledge. The teaching style category includes such topics as teacher understanding of culturally specific behaviors, group vs. individual orientation and multisensory instruction.

Swisher, K. and Deyhle, D. (1989). The styles of learning are different, but the teaching is just the same: suggestions for teachers of American Indian youth. Journal of American Indian Education, special issue, 29, 1-14.

This paper illustrated several learning styles with specific examples, and followed with a summary of supporting literature for each learning style. The styles that were featured were: visual learning, field-dependence/field-independence, public and private talk, and cooperating vs. competing. The paper concluded with a discussion of ways to apply learning preferences into practice in the classroom.

Walker, B. J., Dodd, J. and Bigelow, R. (1989). Learning preferences of capable American Indians of two tribes. Journal of American Indian Education, special issue, 29, 63-71.

The Walker Learning Preference Scale was completed by 28 adolescent Native American students to determine if there was a preference in learning styles for the group. Nine of the fifteen males, and six of the thirteen females in the group selected the Patterned Symbols learning preference. The typical patterned symbols learner prefers a group oriented, non-competitive learning environment where he/she can draw personal symbolic relationships between the previously acquired knowledge and the new information. The author offered suggestions on adapting curriculum to the demonstrated learning preference.

CONCLUSIONS/IMPRESSIONS

The journal articles featured in this bibliography cover many aspects of the state of Native American special education in the 1990's. Some aspects have been adequately researched, some aspects have been over-researched and other topics suffer from lack of reported scientific data. This researcher offers his opinion of the state of the literature found in professional journals in the past eight years. This opinion has been separated into the seven sections found in the bibliography. In addition, suggestions of topics that future researchers may consider have been offered in the final section of this conclusion.

Assessment

Bias in the assessment of Native American students with special needs has been discussed extensively. A number of articles discuss the need for alternative methods of assessment measures as well as using more naturalistic testing procedures. Test results that indicate poor performance of Native American students on verbal subtests of many popular measures are also extensively discussed. The literature is lacking, however, in specifically suggesting or developing verbal measures that will identify true learning handicaps and distinguish them from cultural/linguistic differences.

Health Issues

Many informative articles on alcohol, drugs, and substance abuse have been included for the following reasons: (1) substance abuse can cause brain damage in the abuser and lead to the formation of a handicapping condition, (2) substance abuse is a symptom of emotional disturbance, (3) substance abuse can be the cause of many handicapping

conditions to unborn babies, and (4) the effects of substance abuse can be mistaken for handicapping conditions, and therefore lead to an erroneous identification, if the educational diagnostician is unaware of the student's use of substances. Several innovative articles on education and management of alcohol and drug use have also been included. In addition, this section contains articles designed to educate students and teachers on such important topics as suicide, high mortality rates, AIDS awareness, mental health, sexual abuse and the etiology of student delinquency.

Learning Handicaps

There is a distinct lack of recent research on the subject of Native American students and handicapping conditions. Many studies can be done on the efficacy of applying various teaching strategies, methods, materials, and procedures on Native students who are currently enrolled in special education programs. Some of the reasons for the lack of research on such important topics may include the following: (1) the Native American's historical mistrust of Anglo American intentions, (2) geographical barriers, such as long distances, between universities and reservation schools, (3) lack of perceived relevance of such studies on the part of Native American communities, and (4) many children who are identified as handicapped by the schools are not seen as handicapped by the Native American community. However, the handicapping characteristics of Native American students who have had otitis media, or middle ear infection, are well described in the recent literature offered in this bibliography.

Gifted

The definition of giftedness is discussed in detail throughout this section. Special attention is paid to comparing the traditional Anglo definition of giftedness to the somewhat different Native American definition, and to the problems that are caused when the Anglo definition is used in the identification process of Native American gifted children. The literature does not, however, offer many solutions to the problem of identification of the gifted that are acceptable to both the Native American and the Anglo cultures.

Program/Personnel Training

Various excellent descriptions of personnel training programs for both regular and special education teachers, educational assistants, counselors, liaisons, and support personnel are discussed in this section. Of particular interest are the articles that describe field-based programs that are designed to train residents of the local communities to work in their school in special education capacities. The field-based programs usually offer university credit for attending classes close to their homes on the reservation, which in most cases are located hundreds of miles from the university.

Culture/Language

The articles in this section address the bilingual/bicultural component of the bilingual special education program, and are also suitable for those who wish to apply the content to regular education settings. Some of the issues discussed in this section include cultural incongruencies that can be responsible for school failure, historical issues such as the Anglo attempts to eradicate Native American languages and hide Native American accomplishments, and descriptions of successful bilingual/bicultural school programs.

Cognitive Style

This section contains twenty articles on the subjects of learning style, cognitive style and laterality. Although there are undoubtedly many useful ideas in these articles, it is the opinion of this researcher that there is not as much useful content in this section as the volume of articles would lead one to believe. The conclusions reached by the authors are repeated several times throughout this section. Nevertheless, it would behoove the teachers of Native American students with special needs to become familiar with the cognitive styles that are prevalent in their classrooms.

Suggestions for Future Researchers

The following list of suggestions have been compiled to help students and teachers choose topics that have not been thoroughly researched, and to introduce possibly valuable sources that are not currently found when conducting ERIC searches:

* alternative verbal measures need to be developed to aid in the assessment and identification of Native Americans with learning handicaps,
* alternative approaches for controlling and preventing substance abuse among Native American adolescents,
* more scientific studies need to be conducted to test the efficacy of new approaches to teaching Native American students with learning handicaps,
* gifted student identification procedures and educational programs that are agreeable to both cultures have yet to be developed,
* field-based teacher training programs should be initiated at the high school level in order to capture the interest of younger Native

American students,

* more scientific studies can be performed and published, thereby replacing the over-used survey method of gathering data,
* Native Americans should be looked upon as a heterogeneous group and classified by tribal affiliation, rather than treated as a homogeneous group without regard to individual tribal characteristics,
* *Journal of Navajo Education* articles will not be found in an ERIC search, but should be consulted when conducting research on issues pertaining to education of Native Americans of the Southwest.

Appendix

Descriptors Used For ERIC Search

1. American Indians and learning disabilities
2. American Indians and communication disorders
3. American Indians and behavior disorders
4. American Indians and mental retardation
5. American Indians and physical disabilities
6. American Indians and dyslexia
7. American Indians and mental disorders
8. American Indians and behavior modification
9. American Indians and behavior problems
10. American Indians and reading difficulties
11. American Indians and reading improvement
12. American Indians and reading strategies
13. American Indians and reading failure
14. American Indians and evaluation
15. American Indians and assessment
16. American Indians and attention deficit disorder
17. American Indians and hyperactivity
18. American Indians and developmental disabilities
19. American Indians and language handicaps
20. American Indians and learning problems
21. American Indians and minimal brain dysfunction
22. American Indians and writing difficulties
23. American Indians and aphasia
24. American Indians and holistic reading
25. American Indians and cognitive styles
26. American Indians and learning theories
27. American Indians and annotated bibliography and special education

28. American Indians and special education

29. American Indians and cultural pluralism

30. American Indians and biculturalism

31. American Indians and acculturation

32. American Indians and cultural differences

33. American Indians and culture

34. American Indians and culture conflict

35. American Indians and multicultural education

36. American Indians and culture-shock

37. American Indians and ethnocentrism

38. American Indians and religious conflict

39. American Indians and social differences

40. American Indians and hearing impairments

41. American Indians and visual impairments

42. American Indians and bilingual special education

43. American Indians and speech handicaps

44. American Indians and hearing therapy

45. American Indians and speech and hearing clinics

46. American Indians and child health

47. American Indians and mental health

48. American Indians and chronic illness

49. American Indians and health conditions

50. American Indians and health needs

51. American Indians and prenatal influences

52. American Indians and radiation effects

53. American Indians and special health problems

54. American Indians and alcohol education

55. American Indians and drug education

56. American Indians and heart disorders

57. American Indians and diabetes

58. American Indians and braille

59. American Indians and neurological impairments

60. American Indians and adaptive physical education

61. American Indians and normalization

62. American Indians and Special Olympics

63. American Indians and bilingual education

64. American Indians and second language learning

65. American Indians and visual learning

66. American Indians and verbal learning

67. American Indians and multisensory learning

68. American Indians and cooperative learning

69. American Indians and exceptional persons

70. American Indians and language research

71. American Indians and reading research

72. American Indians and writing research

73. American Indian Reservations and schools

74. American Indian Reservations and special education

75. Navajo and special education

76. Navajo and cognitive styles

77. Navajo and learning theories

78. Navajo and learning disabilities

79. Navajo and communication disorders

80. Navajo and behavior disorders

81. Navajo and mental retardation

82. Navajo and physical disabilities

83. Navajo and mental disabilities

84. Navajo and language handicaps

85. Navajo and writing differences

86. Navajo and speech handicaps

87. Navajo and multicultural education

88. Hopi and special education

89. Hopi and learning theories

90. Hopi and multicultural education

91. Hopi and learning disabilities

92. Hopi and communication disorders

93. Cherokee and special education

94. Cherokee and multicultural education

95. Cherokee and learning theories

96. Sioux and special education

97. Sioux and learning disabilities

98. Sioux and learning theories

99. Sioux and communication disorders

100. Sioux and multicultural education

101. Canada Natives and bilingual education

102. Canada Natives and multicultural education

103. Canada Natives and learning disabilities

104. Canada Natives and communication disorders

105. Canada Natives and behavior disorders

106. Canada Natives and language handicaps

107. Canada Natives and learning theories

108. Canada Natives and special education

109. Canada Natives and physical disabilities

110. Canada Natives and mental retardation

111. Canada Natives and alcohol education

112. Canada Natives and drug education

113. Canada Natives and writing difficulties

114. Canada Natives and reading difficulties

115. Canada Natives and mental disorders

116. Canada Natives and reading improvement

117. Canada Natives and reading failure

118. Canada Natives and minimal brain dysfunction

119. Canada Natives and mental health

120. Canada Natives and health needs

121. Canada Natives and diabetes